

NARRATIVE REPORT

for

1968

SHERBURNE NATIONAL WILDLIFE REFUGE

Princeton, Minnesota



NARRATIVE REPORT
SHERBURNE NATIONAL WILDLIFE REFUGE
PRINCETON, MINNESOTA

1968

Permanent Personnel

Robert G. Yoder, Refuge Manager(GS-12)	12/15/68	- 12/31/68
John C. Carlsen, Refuge Manager(GS-12)	1/1/68	- 10/5/68
David E. Goeke, Ass't Refuge Manager(GS-7)	6/3/68	- 12/31/68
Barnet W. Schranck, Ass't Refuge Manager(GS-7)	1/1/68	- 4/6/68
E. Homer McCollum, Soil Conservationist(GS-9)	8/25/68	- 12/31/68
Patricia A. Dunham, Clerk-Typist (GS-4)	1/1/68	- 12/31/68
Wesley C. Thompson, Maintenance Foreman(WB-7)	2/25/68	- 12/31/68
Reuben A. Mathison, Maintenance man(WB-5)	2/25/68	- 12/31/68

Temporary Personnel

Wesley C. Thompson, Maintenance man*	1/1/68	- 2/24/68
Reuben A. Mathison, Maintenance man*	1/1/68	- 2/24/68
Milton C. Elveru, Laborer	1/1/68	- 12/31/68
Henry W. Trebesch, Jr., Maintenance man	1/1/68	- 12/31/68
Merlin A. Wicktor, Operator General(Heavy)(WB-6)	5/6/68	- 12/31/68
Robert L. Marrs, Biological Technician(GS-4)	6/3/68	- 9/7/68
Orville Johnson, Laborer	2/5/68	- 12/31/68
Gordon W. Wold, Laborer	1/24/68	- 12/31/68
John E. Anderson, Laborer	2/5/68	- 3/2/68
	and 12/4/68	- 12/31/68

*TAPER Appointments converted to Career-Conditional eff. 2/25/68

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SHERBURNE NATIONAL WILDLIFE REFUGE

Princeton, Minnesota

NARRATIVE REPORT

Calendar Year 1968

I. General

A. Weather Conditions - 1968

TABLE I

	Snowfall*	Precipitation		Temperature	
		This Month**	Normal***	Maximum**	Minimum**
January	9.0"	.89	.90	44	-28
February	3.3"	.39	.90	43	-22
March	0.1"	1.47	1.50	80	-7
April	0.6"	4.52	2.00	88	14
May	T	3.97	3.70	81	27
June	0	5.55	4.50	96	40
July	0	1.75	3.30	90	41
August	0	4.65	3.70	92	38
September	0	8.46	2.40	83	35
October	T	6.69	2.00	84	26
November	5.7"	1.25	1.50	61	10
December	<u>25.4"</u>	<u>2.46</u>	<u>.80</u>	<u>41</u>	<u>-24</u>
Annual Totals:	44.1"	42.05	27.20	Extremes: 96	-28

* Data obtained from U.S. Weather Bureau office in St. Cloud, Minnesota.

** Data obtained from official weather station maintained by Gordon Wold of rural Santiago, $\frac{1}{2}$ mile north of the Refuge.

*** Data obtained from Milaca, Minnesota weather station located 15 miles north of the refuge.

As of the end of April a total of only 13.0 inches of snow had fallen during the winter of 1967-68. April rains and snow melt quickly ended the dry conditions prevalent throughout 1967. So little snow was present that the annual spring flood was unusually mild and short lived.

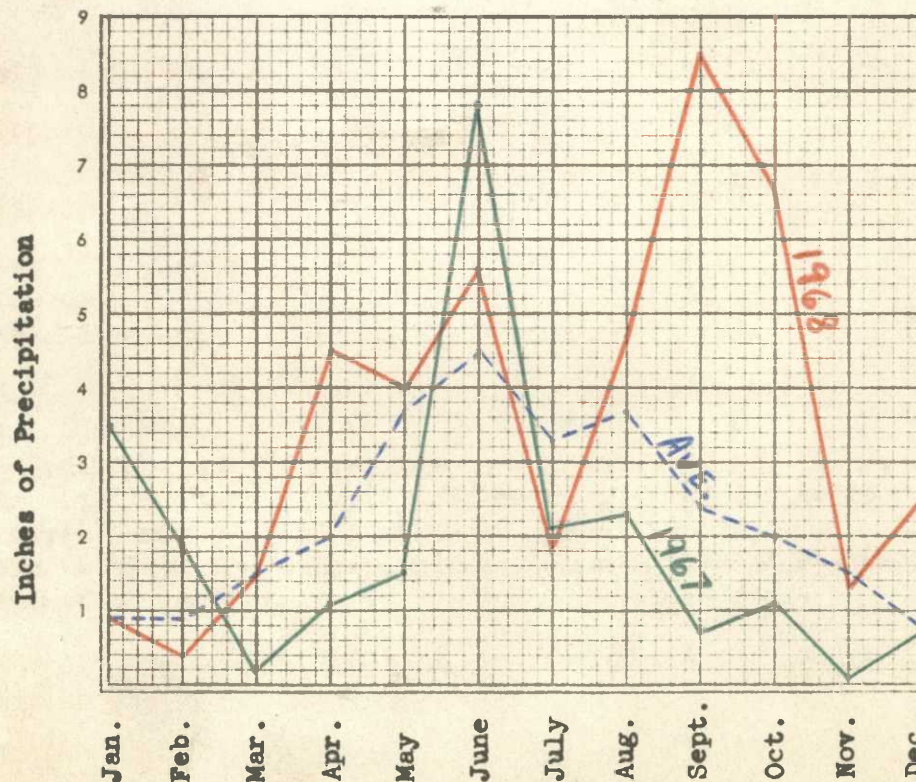
Moisture conditions were excellent during planting and throughout the growing season. Precipitation was well spaced and seemed to come at just the right times for the crops.

Weather did not become a problem until fall when rain, rain, rain delayed harvest and caused floods comparable to normal spring floods.

Heavy December snows have heralded a potentially severe winter for the resident wildlife and happy times for the snowmobilers.

B. Habitat Conditions

1. Water 1968 was marked by unusually heavy precipitation, 42.05 inches compared with the average 27.2 inches, and was almost double the 22.85 inches of 1967. The 15.15 inches of rainfall during September and October kept water levels at or near flood stage throughout the hunting season to freeze up on Nov. 11.



2. Food and Cover Refuge corn is again receiving excellent usage by deer and small game. Heavy year-end snows however have drifted into the strips of standing corn somewhat reducing its accessibility. Waterfowl use is negligible at present due to heavy hunting pressure and the relatively low numbers of waterfowl using the refuge. One exception and an indication of future potential was the use by 2000+ mallards of thirty acres of corn flooded by the St. Francis River during October. Future waterlevel manipulation and control of waterfowl hunting will greatly increase waterfowl use.

Thirty acres of alfalfa were planted to provide additional nesting cover for pheasants and ducks and sixty acres of native grasses were planted. These items are covered more fully in Part III, B.

The mast crop for 1968 was excellent in areas with mature trees. Much of the refuge oak is scrub and provides little food. Hazel nuts were abundant and a high percentage were gathered by a few persistent local people.

Wild rice production was heavy on Johnson's, Durgin's and Turnbull's Sloughs, the west part of Bergerson's Slough, Lake Josephine, and other small sloughs. Rice was notably absent on Orrock and Rice Lakes. Waterfowl utilization of the rice was ideal due to the high water conditions.

In most refuge waters sago pondweed has now been largely replaced by coontail as a result of the carp infestation. Other pondweeds such as floating-leaf, large-leaf, and flat-stemmed pondweeds provide some waterfowl food as do arrowhead, duck weeds and spike rush.

II. WILDLIFE

A. Migratory Birds

1. Swans First reports of migrating swans were made by hunters on the opening day of deer season, November 9. A flock of 125 were observed migrating over the refuge on November 14 by refuge personnel. Refuge personnel also observed a flock of eight, four adults and four immatures, resting on Orrock Lake. This small flock was the first known stopping of whistlers since the opening of the refuge in 1965.

Two, two-year old trumpeter swans were obtained from the Hennepin County Park District. These birds were originally captured at

Red Rock Lakes NWR but were considered too old for the park district's program. They are of opposite sex and we hope they will form a pair and begin a flock. They are a great asset to our show pen and have stimulated a great deal of public interest.

2. Ducks Three mallards were observed flying over the refuge by refuge personnel on March 16. By the end of the month pintails, greenwinged teal, wood ducks, scaup, and goldeneye were also present. Throughout the season mallard, blue-winged teal, wood duck and ring-necked duck numbers were all higher than during 1967.

Refuge production was up slightly from 1967 due in part to the excellent water conditions that existed during the spring and early summer. An estimated 715 young were produced, up 17% from 1967, with mallards accounting for 38%, wood ducks 37%, blue-winged teal 17%, ring-necks 6% and green-winged teal 2%. 108 acres of alfalfa in twelve fields were searched for nests during mid June but no nests were found.

The state of Minnesota operated a split duck season running from October 5-13 and October 26-November 12. The season opened with the estimated 3000 ducks present scattered throughout the refuge as a result of the unusually high water. Hunting pressure was again heavy but the dispersal of the ducks caused spotty hunter success.

A fair increase in waterfowl usage has occurred since the refuge's opening in 1965. Long Pond is a probable indication of things to come. In 1967 this 20 acre impoundment provided sanctuary for 1600 mallards throughout much of the hunting season. In 1968 it provided for 2500 ring-necks and scaup. With further acquisition and development, closing larger areas will undoubtedly bring a dramatic increase in waterfowl use.

Black ducks and canvasbacks were added to the refuge bird list. Black ducks are fairly common here among flocks of mallards and were probably overlooked previously. Twenty-two canvasbacks were observed resting on Orrock Lake on October 17 and departed while under observation. This was the only known observation of canvasbacks using the refuge since it opened in 1965.

3. Geese The first flock of Canada geese (23) were observed over the refuge on March 14. As many as 150 geese were present at one time but no sustained numbers used the refuge during the spring. Occasional flocks were stopping until the end of April. No blue and snow geese were known to use the refuge during the spring and no wild geese stayed over the summer.

The first migrant Canadas in the fall were observed passing over the refuge on October 25, three days before the opening of goose season. Sixteen spent the entire hunting season as guests in the show pen with the refuge's captive flock. These geese accepted our facilities so well that they even walked into the barn with the captives after freeze up. This was a mistake on their part. As a reward their wings were clipped and they were sent with five of our culls to Muscatatuck NWR in Indiana to form a show flock there. One other flock of sixteen was sighted on Rice Lake but most migrating flocks were kept on the move by the ever-present hunters. No known wild Canada geese were killed on the refuge, but one of our poorly clipped captive birds was legally shot just outside the refuge boundary by a local resident.

No blue and snow geese were known to use the refuge during the fall and very few were seen migrating over. One low-flying "blue" was dropped from a flock of three by a lucky duck hunter on Lake Josephine.

Goose use days have again increased in 1968. Most of the increased use is in the spring and is felt to be a result of the presence of our captive flock. Again, without the constant harassment by hunters during the fall and with further development goose use will increase greatly.

A summary of duck, goose, and coot use days for the past three years is as follows:

Year	Ducks	Geese	Coots
1966	174,670	840	104,405
1967	181,196	1,611	105,756
1968	335,181	5,684	195,510

A progress report on the refuge's captive goose program will be discussed later in Part V.

4. Other Marsh Birds The first report of American coots was six birds seen on Bergerson's Slough March 29. They built up to a high of about 450 in early May and were gone by mid June. They appeared again in late August, built up to 4000 by the first of October, and were gone by freeze up on November 11. In 1967 it was felt that the coots consumed much of the wild rice production. In 1968 95% of the coots congregated on Orrock Lake, and although they did feed on the little amount of rice present there, very few were found elsewhere on the refuge in the areas of abundant rice and little rice loss was

attributed to coots. No production occurred on the refuge.

The rookery of great blue herons on the Fox tract in section 24 of Santiago township was active in 1968. There are 54 nests in the rookery of which an unknown number were active.

Sora rails, though invisible to behold, were notable by numerous vocal observations in early September.

Pied-billed grebes are very common on the refuge. Of two nests located while censusing waterfowl one contained five eggs and the other eleven.

One pair of common loons nested on Orrock Lake and as many as four loons were sometimes seen there. The nest was found accidentally on June 12 and contained one egg. When the nest was checked again two weeks later, it was found that the egg had been destroyed.

5., Doves Due to the late start in trapping and an inadequate number of traps only 31 mourning doves were banded.

B. Upland Game Birds The 1968 pheasant production was a continuation of 1966 and 1967. Only one brood was observed each of the three years. Although several brood sightings were made in the shop area, it was felt they were all sightings of the same brood. Heavy snows in December have heralded another severe winter for the pheasants and will probably further decimate the already low population.

Throughout Minnesota the ruffed grouse population was considered to be at a near record high in 1968. The ten broods seen on the refuge this year versus four in 1967 seemed to indicate the same thing on the refuge. The hunting season, however, was not nearly as successful as hoped, possibly due to the wet conditions. Most hunters found the best areas to be too wet for successful hunting.

C. Big Game Animals Sherburne's only big game animal is the white-tailed deer and the herd is estimated to include 200-300 animals. Hunting pressure was as usual very heavy but success was very poor. Again, the wet conditions and lack of snow were considered the main factors contributing to the poor success.

Deer usage of the refuge corn was again moderate and not as heavy as might have been expected. Possibly the lack of deep snows made browse more accessible.

D. Fur Animals, Predators, Rodents and Other Mammals

1. Muskrat The refuge's muskrat population fell dramatically in 1968. The first muskrat census of the refuge was made in 1967. A total of 294 houses were counted on the census areas alone and the expanded data yielded an estimate of 4,675 muskrats. This estimate does not include bank dens since these are not censused.

Presently less than a dozen den houses are known on the entire refuge. The four den houses counted on this year's census, when expanded, indicate a population of 54 muskrats on the refuge, not counting bank muskrats. This indicated a population drop of 99%. The spectacular drop was probably a result of both disease and a high winter kill due to the low water levels during the 1967-68 winter. A similar population drop probably occurred among the muskrats using bank dens.



Maintenance Foreman Wesley Thompson and Wildlife Aid Bob Marrs releasing one of three beaver put into Bergerson Slough during 1968.

2. Mink and Beaver Little is known of the mink population but it is probably lower than normal as a result of the drop in muskrat numbers. Heavy trapping in the past has severely limited the beaver population. A few beaver are known to be in the Long Pond area and a few more in the northeast corner of the refuge. In an attempt to help rebuild the refuge population, the refuge is cooperating with the Minn. Cons. Dept. by live-trapping problem beaver from the surrounding area and releasing them on the refuge. One beaver was added in this way before the high water in September called an end to trapping. Two other problem beaver were trapped from the Long Pond control structure and all three were released into Bergerson Slough.

3. Raccoons, Striped Skunks, and Foxes Raccoons, striped skunks, and red foxes are all rather abundant on the refuge and the extent of their predation is not yet known. One family of particularly obliging red fox pups proved to be a pleasant highlight for visiting tour groups during the early summer. It was often possible to stop a school bus near their roadside den, blow the horn, and have one or more of the pups sit up from the grass near the den and watch the bus.



One of a family of foxes that often obliged visitors with its presence along the tour route.

4. Rabbits Cottontail rabbits are beginning to show signs of rising from their previously low numbers. Tracks are fairly common in the snow this winter and the dozen sightings in 1968, though low, is still considerably higher than the three sightings in 1967.

White-tailed jackrabbits are also low in numbers and are seen about as frequently as cottontails.

5. Rodents A black squirrel, probably a melanistic gray squirrel, was observed June 4 near the Floyd Taylor residence. Mrs. Taylor stated that it has lived around their yard for over a year.

E. Hawks, Eagles, Owls, Crows, Ravens and Magpies

1. Hawks Sparrow hawks were again abundant summer residents. Fledglings boosted the population considerably and by late summer made the species very noticeable along the roadsides. One pair nested in a tree cavity in the Assistant Manager's yard at quarters # 9 and successfully raised two young.

Red-tailed and marsh hawks were common during the summer months. Broad-winged hawks were seen occasionally and the sharp-shinned hawk was added to the refuge bird list. Although overlooked in the past, the sharp-shinned is fairly common on the refuge. Its habits and habitat make it difficult to identify unless familiar with the species.

2. Eagles Four bald eagles were seen on the refuge in 1968, two adult and two immature. None of these birds are resident and they are seen only in migration at the present time.

3. Owls Great horned owls finally overstepped their welcome. They are common year-round residents of the refuge and undoubtedly do their share of good. This year however over a period of three days they stole five small goslings from the breeding pens. The identity of the predator was at first thought to be a feral cat that was quickly dispatched. When the depredations continued, a pole trap was erected and results were swift. Two owls were caught in the first three days and gosling losses ceased. The pole trap remained and three more owls were caught during the summer.

It was interesting to note that losses occurred only from the two breeding pens with short vegetation. The other pens had been seeded to fall rye and the taller vegetation seemed to offer the necessary protection from owl predations. As a result all of the breeding pens have been seeded to fall rye in 1968 and hopefully will provide sufficient cover for the 1969 goslings.

The screech owl was added to the refuge bird list. Judging from vocal observations it is a common summer resident.

Crows are common year-round residents and as yet are not a management problem.

F. Other Birds

A refuge bird list was begun in 1966 listing 109 species, 19 were added in 1967, and 33 species added in 1968. The list was written up and sent to the printers in July and is already out of date and ready for revision. A group from the Minneapolis Bird Club made a trip up in June and added five new species to the list. The other 28 species were added by the Assistant Manager. The following list shows the 33 species added in 1968. Those added by the Minneapolis Bird Club are marked with an asterisk(*).

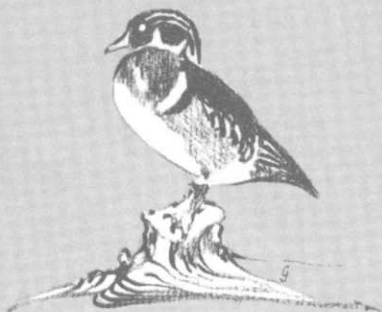
Black Duck	Bohemian Waxwing
Canvasback	Northern Shrike
Sharp-shinned Hawk	*Yellow-throated Vireo
Semipalmated Plover	Warbling Vireo
Black-bellied Plover	Nashville Warbler
Pectoral Sandpiper	Rusty Blackbird
Short-billed Dowitcher	Dickcissel
Semipalmated Sandpiper	Evening Grosbeak
Rock Dove	Pine Grosbeak
Screech Owl	Common Redpoll
Whip-poor-will	Vesper Sparrow
Eastern Phoebe	*Clay-colored Sparrow
Olive-sided Flycatcher	*Field Sparrow
*Short-billed Marsh Wren	Lincoln's Sparrow
*Veery	Swamp Sparrow
Golden-crowned Kinglet	Song Sparrow
Ruby-crowned Kinglet	

- ☐ Northern Shrike
- ☐ Loggerhead Shrike * 3
- ☐ Starling * 1
- ☐ Yellow-throated Vireo * 3
- ☐ Red-eyed Vireo * 3
- ☐ Warbling Vireo * 3
- ☐ Black-and-white Warbler
- ☐ Tennessee Warbler
- ☐ Orange-crowned Warbler
- ☐ Nashville Warbler
- ☐ Parula Warbler
- ☐ Yellow Warbler * 2
- ☐ Magnolia Warbler * 3
- ☐ Cape May Warbler
- ☐ Black-throated Blue Warbler
- ☐ Myrtle Warbler * 2
- ☐ Black-throated Green Warbler
- ☐ Blackburnian Warbler
- ☐ Chestnut-sided Warbler
- ☐ Blackpoll Warbler
- ☐ Ovenbird * 3
- ☐ Northern Waterthrush
- ☐ Connecticut Warbler
- ☐ Mourning Warbler
- ☐ Yellowthroat * 2
- ☐ Wilson's Warbler
- ☐ Canada Warbler
- ☐ American Redstart * 3
- ☐ House Sparrow * 2
- ☐ Bobolink * 2
- ☐ Eastern Meadowlark * 2
- ☐ Western Meadowlark
- ☐ Yellow-headed Blackbird * 3
- ☐ Red-winged Blackbird * 1
- ☐ Orchard Oriole
- ☐ Baltimore Oriole * 2
- ☐ Rusty Blackbird
- ☐ Brewer's Blackbird
- ☐ Common Grackle * 2
- ☐ Brown-headed Cowbird * 2
- ☐ Scarlet Tanager * 3
- ☐ Cardinal
- ☐ Rose-breasted Grosbeak * 3
- ☐ Indigo Bunting * 2
- ☐ Dickcissel * 2
- ☐ Evening Grosbeak
- ☐ Purple Finch * 3
- ☐ Pine Grosbeak
- ☐ Common Redpoll
- ☐ Pine Siskin

- ☐ American Goldfinch * 2
- ☐ Red Crossbill
- ☐ White-winged Crossbill
- ☐ Rufous-sided Towhee * 4
- ☐ Savannah Sparrow
- ☐ Grasshopper Sparrow * 2
- ☐ Sharp-tailed Sparrow * 3
- ☐ Vesper Sparrow * 2
- ☐ Lark Sparrow
- ☐ Slate-colored Junco * 2
- ☐ Tree Sparrow * 3
- ☐ Chipping Sparrow * 2
- ☐ Clay-colored Sparrow * 3
- ☐ Field Sparrow * 3
- ☐ Harris' Sparrow * 3
- ☐ White-crowned Sparrow * 3
- ☐ White-throated Sparrow * 3
- ☐ Fox Sparrow * 2
- ☐ Lincoln's Sparrow
- ☐ Swamp Sparrow
- ☐ Song Sparrow * 2
- ☐ Lapland Longspur
- ☐ Snow Bunting * 2

Notes

Date _____ Total _____
 Observers _____
 Weather _____ Time _____



Refuge Manager
 Box 158
 Princeton, Minnesota 55371



UNITED STATES DEPARTMENT OF THE INTERIOR
 FISH AND WILDLIFE SERVICE
 BUREAU OF SPORT FISHERIES AND WILDLIFE

RL 230 August, 1968



Birds of Sherburne

NATIONAL WILDLIFE REFUGE

Sherburne National Wildlife Refuge was established in 1965 and is administered by the Department of the Interior's Bureau of Sport Fisheries and Wildlife. When complete, the refuge will contain 31,500 acres of forest, cropland, marsh and open water. Refuge goals include producing at least 10,000 ducks and 500 Canada geese annually; providing food, rest and protection to a fall population of 100,000 ducks and 25,000 geese; and providing for nature-oriented recreation.

The many kinds of habitat available, the wildlife trails, and many gravel roads open to public travel all provide excellent opportunities for viewing a variety of bird species.

While the primary purpose of the refuge is the production of waterfowl, many species of shorebirds and songbirds use the area during migration. Peak bird populations occur between late April and early June and between the middle of August and early October.

CHECKLIST

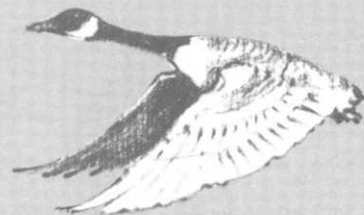
This bird list contains 226 species of birds normally expected to be present at some time on the refuge. Of this number 142 have been recorded since 1965. The column at the left is provided to serve as a field checklist for recording species observed.

Those marked with an * have been recorded on the refuge. Relative abundance of each of these species is indicated by numbers: 1-abundant, 2-common, 3-uncommon, 4-occasional, 5-rare

Common Loon * 3
Red-necked Grebe
Horned Grebe * 4
Eared Grebe * 5
Western Grebe
Pied-billed Grebe * 2
White Pelican
Double-crested Cormorant
Great Blue Heron * 2
Green Heron * 2
Common Egret * 4
Black-crowned Night Heron * 2
Least Bittern * 4
American Bittern * 2
Whistling Swan * 4
Canada Goose * 2
White-fronted Goose * 5
Snow Goose * 2
Blue Goose * 2
Mallard * 1
Black Duck
Gadwall * 3
Pintail * 2
Green-winged Teal * 2
Blue-winged Teal * 1
American Widgeon * 3
Shoveler * 2
Wood Duck * 1
Redhead * 3
Ring-necked Duck * 2
Canvasback
Greater Scaup
Lesser Scaup * 2
Common Goldeneye * 2
Bufflehead * 3
Oldsquaw
White-winged Scoter
Ruddy Duck * 3
Hooded Merganser * 3

Common Merganser * 3
Red-breasted Merganser * 4
Turkey Vulture * 4
Goshawk * 3
Sharp-shinned Hawk
Cooper's Hawk
Red-tailed Hawk * 2
Red-shoulder Hawk
Broad-winged Hawk * 3
Swainson's Hawk
Rough-legged Hawk * 3
Golden Eagle
Bald Eagle * 5
Marsh Hawk * 2
Osprey
Peregrine Falcon
Pigeon Hawk
Sparrow Hawk * 1
Ruffed Grouse * 2
Ring-necked Pheasant * 3
Sandhill Crane
Sora * 2
Common Gallinule
American Coot * 2
Semipalmated Plover
Killdeer * 2
American Golden Plover
Black-bellied Plover
Ruddy Turnstone
American Woodcock * 3
Common Snipe * 2
Upland Plover
Spotted Sandpiper * 2
Solitary Sandpiper * 3
Greater Yellowlegs * 3
Lesser Yellowlegs * 2
Pectoral Sandpiper
Least Sandpiper * 3
Semipalmated Sandpiper * 3
Wilson's Phalarope * 2
Northern Phalarope * 2
Herring Gull
Ring-billed Gull * 2
Franklin's Gull
Forster's Tern
Common Tern * 2
Caspian Tern
Black Tern * 1
Rock Dove * 2
Mourning Dove * 1
Yellow-billed Cuckoo * 4
Black-billed Cuckoo * 3
Screech Owl
Great Horned Owl * 2
Snowy Owl * 4
Barred Owl
Short-eared Owl * 2
Saw-whet Owl
Whip-poor-will * 3
Common Nighthawk * 2
Chimney Swift * 4
Ruby-throated Hummingbird * 3
Belted Kingfisher * 2
Yellow-shafted Flicker * 2

Pileated Woodpecker * 3
Red-bellied Woodpecker
Red-headed Woodpecker * 2
Yellow-bellied Sapsucker * 2
Hairy Woodpecker * 2
Downy Woodpecker * 2
Black-backed 3-toed Woodpecker
Northern 3-toed Woodpecker
Eastern Kingbird * 1
Western Kingbird * 3
Great Crested Flycatcher * 3
Eastern Phoebe * 3
Traill's Flycatcher
Least Flycatcher
Eastern Wood Pewee * 3
Olive-sided Flycatcher
Horned Lark * 2
Tree Swallow * 2
Bank Swallow
Rough-winged Swallow
Barn Swallow * 1
Cliff Swallow * 3
Purple Martin * 2
Gray Jay
Blue Jay * 2
Black-billed Magpie
Common Raven
Common Crow * 2
Black-capped Chickadee * 2
White-breasted Nuthatch * 2
Red-breasted Nuthatch
Brown Creeper * 3
House Wren * 2
Winter Wren
Long-billed Marsh Wren * 2
Short-billed Marsh Wren * 2
Mockingbird * 4
Catbird * 2
Brown Thrasher * 2
Robin * 2
Wood Thrush
Hermit Thrush
Swainson's Thrush
Gray-cheeked Thrush * 4
Veery * 3
Eastern Bluebird * 2
Golden-crowned Kinglet
Ruby-crowned Kinglet
Bohemian Waxwing
Cedar Waxwing * 2



G. Fish

Northern pike are the only "game" fish of importance on the refuge. They are caught in the St. Francis River and receive moderate attention from local fishermen. A few small bullheads are caught also.

Carp are by far the most important fish on the refuge in terms of numbers, size and destruction of aquatic habitat. Acquisition has not yet reached the stage where carp control can be begun. The situation on Rice Lake and in the river is ideal for bow shooting carp. It offers an excellent opportunity for exploitation that might benefit both the public and the refuge.

H. Reptiles and Amphibians

1. Reptiles The following reptiles have been observed on the refuge so far.

Turtles:

Painted Turtle	<u>Chrysemys picta</u>
Common Snapping Turtle	<u>Chelydra serpentina</u>
Blanding's Turtle	<u>Emydoidea blandingi</u>

Snakes:

Plains Garter Snake	<u>Thamnophis radix</u>
Bullsnake	<u>Pituophis melanoleucus</u>
Plains Hognose Snake	<u>Heterodon nasicus</u>
Eastern Hognose Snake	<u>Heterodon platyrhinos</u>

Plains garter snakes were very abundant during the fall when they came out to warm themselves on gravel roads. This behavior certainly contributes to the mortality figures for the species.

Although no lizards have yet been identified, sparrow hawks have been observed several times feeding on lizards, possibly a species of skink.

2. Amphibians Amphibians on the refuge are poorly known. Those that have been identified so far are as follows.

Leopard Frog	<u>Rana pipiens</u>
Eastern Wood Frog	<u>Rana sylvatica</u>
Eastern Gray Tree Frog	<u>Hyla versicolor</u>
American Toad	<u>Bufo americanus</u>
Tiger Salamander	<u>Ambystoma tigrinum</u>

I. Diseases

None to report.

III. Refuge Development And Maintenance

A. Physical Development

The locations of all major projects are shown on the attached maps.

1. Buildings Probably one of the most obvious changes, as far as the local people are concerned was moving Refuge Headquarters from Princeton to Refuge property.

A small home on the St. Francis River was remodeled, resulting in a very neat appearing building with room for three offices, bath, and coffee pot. The grounds were landscaped, a parking lot constructed, H.Q. sign and flag pole erected. The move was completed March 1, 1968.

All five refuge residences required some attention, ranging from interior painting to a new roof.

The maintenance shop was completely insulated, and an exhaust system installed.

2. Farm Site Renovation This project was started in 1966. It consists of burying foundations, walks, and the accumulated junk left after the removal of farm buildings. The areas are leveled, and returned to natural condition by seeding grass and planting trees and shrubs. Thirty-three sites were renovated this year, making a total of 75 completed.

3. Canada Goose Propagation Facilities In anticipation of increased production next year, 16 additional 50' x 50' breeding pens were constructed. A shallow well was put down for water supplies, 5' diameter metal tanks purchased and installed in each pen. A 1/10 acre pond was dug with a drag-line in the show pen.

This project has created considerable public interest. Many visitors simply want to see the geese.

4. Fencing, Posting and Signs Boundary fencing was started in 1967. Four and five tenths miles were completed

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PRINCETON

GENERAL HIGHWAY MAP SHERBURNE COUNTY MINNESOTA

SCALE OF STATUTE MILES

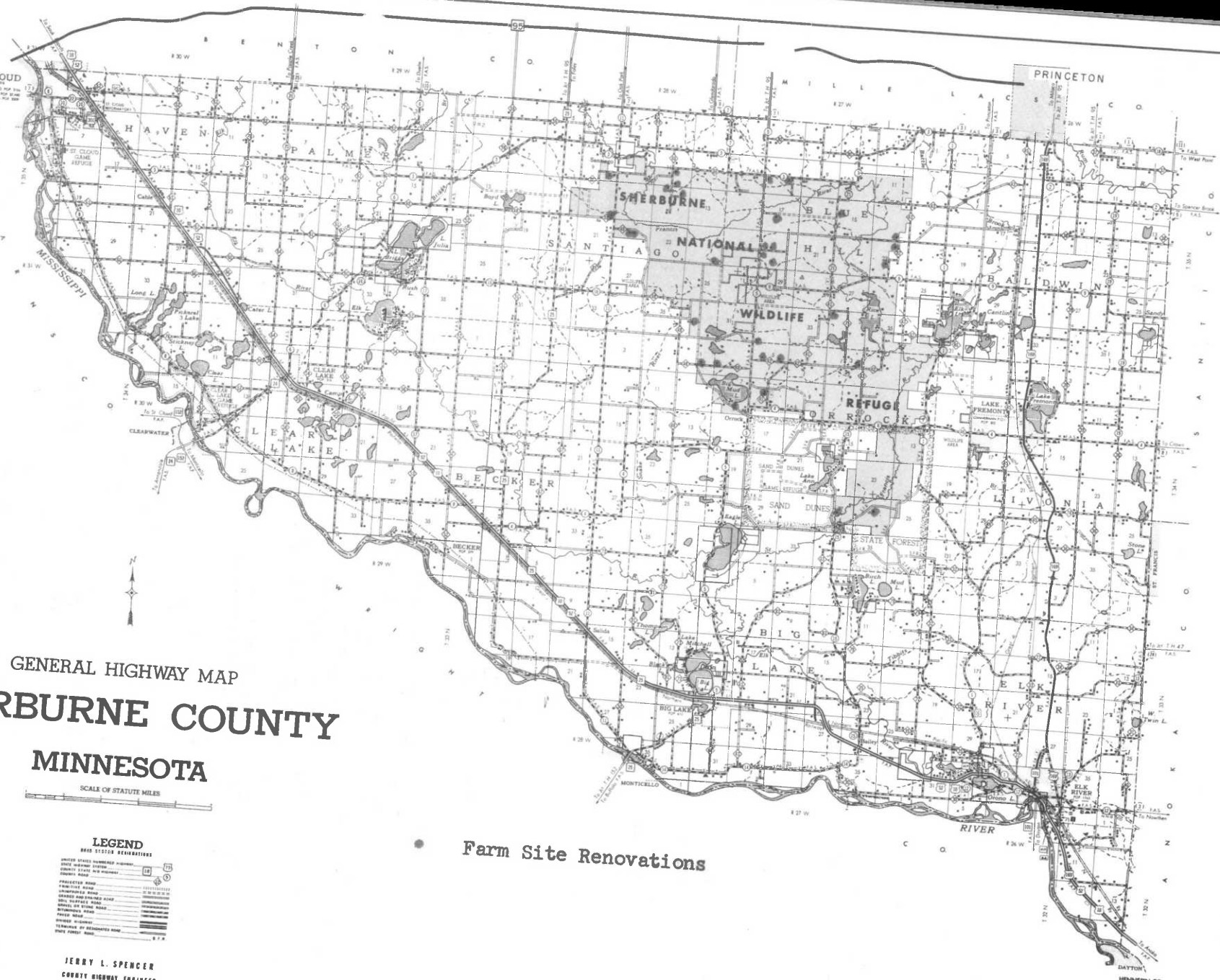
LEGEND

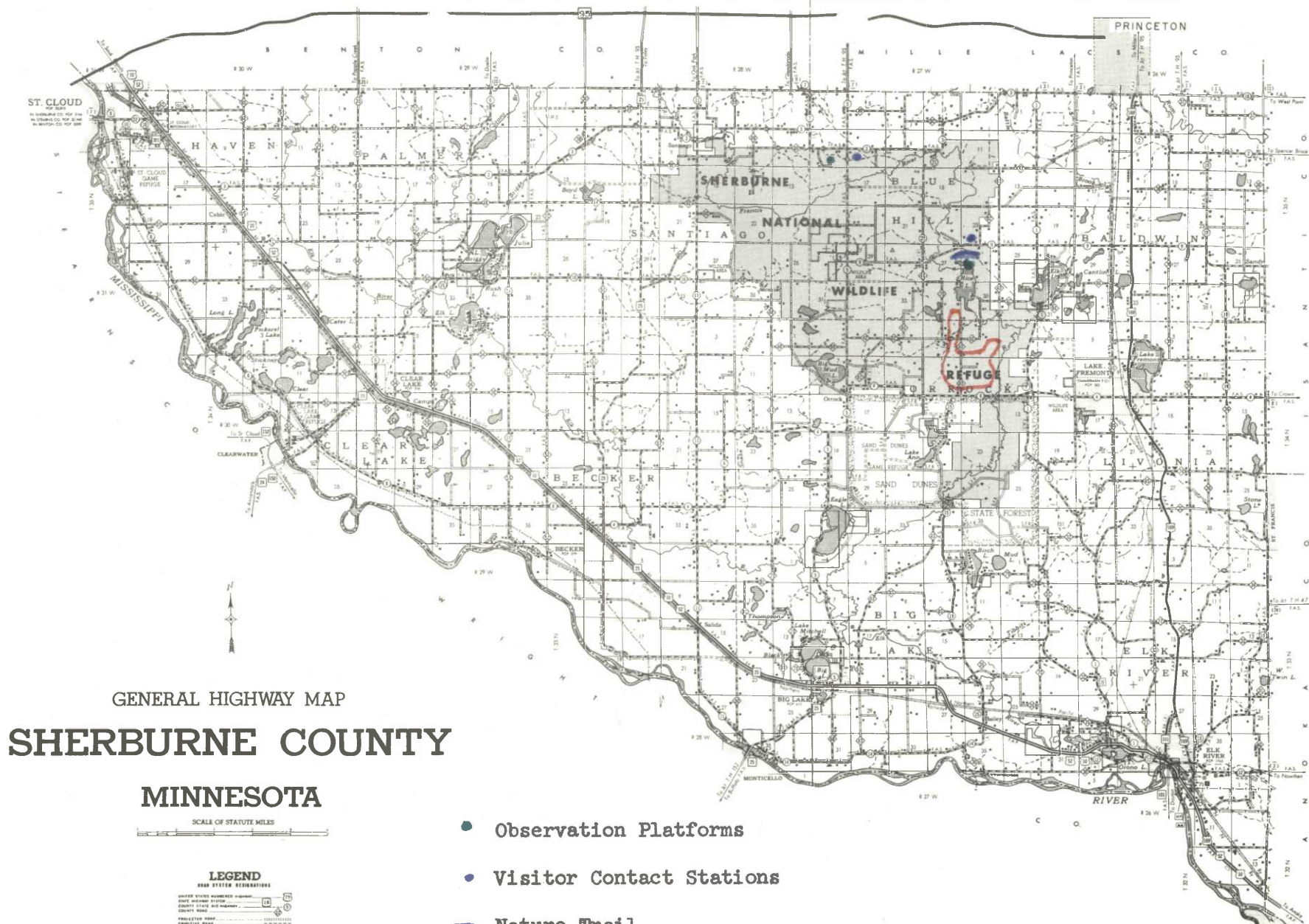
ROAD SYSTEM DESIGNATIONS

UNITED STATES HIGHWAY	1-99
STATE HIGHWAY	100-369
COUNTY STATE AID ROAD	370-499
PROTECTED ROAD	500-599
UNPROTECTED ROAD	600-699
GRAVEL AND CRUSHED STONE	700-799
GRAVEL OR CLAY ROAD	800-899
ROADSIDE ROAD	900-999
RAILROAD	1000-1099
RAILROAD	1100-1199
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RAILROAD	3000-3099
RAILROAD	3100-3199
RAILROAD	3200-3299
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JERRY L. SPENCER
COUNTY HIGHWAY ENGINEER

Farm Site Renovations





- Observation Platforms
- Visitor Contact Stations
- Nature Trail
- Snowmobile Trail

This year, plus 1.25 miles of interior fence. All old fence was removed. Posting was done in conjunction with fencing and 5 miles of public road through the refuge was posted on both sides prior to hunting season.

Refuge personnel also constructed fences around Hope Lutheran Church and Orrock Town Hall. Each organization owns approximately 1 acre of land within the refuge boundary.

Routed entrance signs are now located on all public roads entering the refuge. Seven were placed this year.

5. Public Use Facilities The following is a list of projects completed during the year. Additional information on these facilities will be found later in this report.

- Two Visitor Contact Stations
- Two Observation Platforms
- Four Comfort Stations
- 9.25 miles Snowmobile Trail
- Partial Development of 4 mile Nature Trail

6. Equipment The following major items of new equipment were purchased during the year.

- 1968 Chevelle Sedan, Delivery
- 1968 Chevrolet $\frac{1}{2}$ Ton Pickup
- Dri-Bak Fire Fighting Unit(Tank & Hose, Truck Mounted)
- Snowmobile and Trailer
- Air Compressor
- Welding Equipment(Acetylene and Electric)

The vast resources of excess property were mined for these jewels.

- Austin-Western Motor Grader - 1936!
- Caterpillar D-8 Dozer
- 1951 IHC Truck Tractor
- 1956 GMC 2 Ton Stake Truck
- 1961 Chevrolet $1\frac{1}{2}$ Ton Stake Truck
- 1961 Ford $\frac{1}{2}$ Ton Pickup
- Three 1952 Military Jeeps

B. Plantings

1. Aquatics and Marsh Plants None this year.

2. Trees and Shrubs Shortly after January 1 orders were placed with the Minnesota Cons. Dept. for a total of 22,400 seedlings of white pine, Norway pine, Colorado spruce and caragana.

State and Federal government orders sometimes move in mysterious ways. After volumes of correspondence and many phone calls the seedlings were delivered on May 15 in very poor condition. The plants were put out, but as expected by that time survival was extremely poor.

An experimental planting in cooperation with the S.C.S. was considerably more successful. Twenty-five plants each of Wyant plum, South Dakota plum, Manet plum, Prinsipia cherry, Mongolian cherry, Buffalo cherry, Manchurian apple and Schuberts Chokecherry were set out in mid April. One-hundred-forty-eight of the 200 plants survived through the summer. We hope to obtain information on survival, fruit productions and utilization by wildlife of these plants over the next few years.

3. Upland Herbaceous Plants The refuge has received excellent cooperation from the Soil Conservation Service in establishing native grasses. Mr. John McDermand, Plant Materials Specialist of Bismarck, North Dakota, aided in calibrating the new Nesbit grassland drill and supervised the first plantings with this tool. A mixture of Big Blue stem, little bluestem, Indian grass and switch grass in a ratio of 30-30-30-10 was seeded on 70 acres.



This Nesbit grassland drill has worked very well for seeding our native grass plots.

The nesbit drill was designed specifically for this light chaffy seed, and appears to have done an excellent job. The stands looked good going into the fall. Seeding was done early in the spring on soybean stubble at the rate of 13 pounds of bulk seed per acre. The plots were generally small and located near public roads for maximum visibility by refuge visitors.

In future years, we hope to establish larger blocks of grass, particularly on the west side of the refuge. Maybe a prairie chicken or two will be found here again someday.

4. Cultivated Crops The farming program was set up with the aid of the S.C.S. and County Extension Service. It employs sound land use practices such as strip cropping, rotation and soil testing. The soils on the refuge generally are sandy, draughty, of low fertility, and subject to both wind and water erosion.

Increased costs, low productivity, and the metropolitan labor market will eventually make the "dirt farmer" a candidate for the rare and endangered species list in this area. Our present group of farming permittees generally fall into two categories: part-time farmers who usually are lacking in time and equipment, and older residents who will be retiring soon. For the next few years the present system should be adequate. As the waterfowl population builds, with its increased food demands, we can hope to encourage larger operators who have the equipment and capital, or plan to get into farming in a big way ourselves.

Refuge personnel farmed 211 acres including 70 acres of native grass planting.

Cooperative farmers put in 847 acres.

Adequate rainfall throughout the season provided for above average yields, corn averaged 50+ bushels, with some fields in the 80 bushel range. All rye and legumes looked good going into the winter. A tabulation of the 1968 farming program follows.

C. Collection and Receipts

Two sales of surplus buildings were held during the year, disposing of 34 structures for \$3,316.19.

D. Control of Vegetation

Quack grass is a problem in corn and was treated with atrazine

COOPERATIVE FARMING - SHERBURNE NWR 1968

Permittee & Farm Unit	Corn	Soy Beans	Fall Rye	Oats & Alsike	Total
Sunnyview Inc. A-3, A-4, A-5	175		100		275
A-14, A-35, A-36, A-47					
Warren Foss A-40, A-41	15	21	16	22	74
Lloyd Stay A-12, A-15, A-37	44	21	6	28	99
Leroy George A-50	12		5		17
Guy Wilson A-17, A-32	18		35		53
Bertil Anderson A-20	16				16
Lawrence Turnquist A-11, A-22	62		18		80
Morten Arneson A-51			34		34
Bud Gesch A-1, A-10, A-38	93		38		131
A-23, A-46					
Dan Luby A-21, A-39	27		36		63
Frank Miller A-41	5				5
SUBTOTAL	467	42	288	50	847

FORCE ACCOUNT - 1968

	Alfalfa	Corn	Soy Beans	Fall Rye	Oats & Alsike	Total
Burdette A-1	3					3
O'Dell A-2	4*	4				8
Kucera A-12		3		6		9
Larsen A-17		6				6
Trebesch A-23	12	11		11		34
Olsen A-30	6	9		11		26
Jacobson A-34	6	9		9		24
Elveru A-37		9		10		19
Unger		6		6		12
SUBTOTAL	31	57		53		141
TOTAL	31	524	42	341	50	988

* 4 acres of trefoil

on all farming units. Leafy spurge (Esula esula) is still a problem in a few areas. It is sprayed with tordon with good results, but has not been eliminated so far.

E. Planned Burning Nothing to report.

F. Fire

Six fires burning 28 acres occurred on the refuge during 1968. Prompt action by refuge personnel, the Minn. Cons. Dept., Princeton and Zimmerman fire departments held the largest of the fires to 10 acres.

This points up the fact that all agencies in the area are keenly aware of wildfire hazards and help can be available from several sources.

Steps are being taken to purchase and borrow radio equipment for contact with the state forestry personnel. Communication with these people is vital in fire protection, and presently depends on a sometimes undependable telephone system.

IV. Resource Management

A. Grazing

As in 1967, one permit was issued, for 4 acres to an adjacent landowner. Grazing is done intermittently. No additional grazing permits are contemplated.

B. Haying

Four haying permits were issued for 86 acres of alfalfa and permittees were charged a nominal fee of \$1.00 per acre. One cutting of hay was permitted after July 25. This removes the rank plant growth after the nesting season, and allows lush green growth in the fall.

C. Fur Harvest

Until the Bureau owns the majority of the land along the water ways, it will be impractical to attempt to administer a trapping program. Presently the refuge is open to trapping under state regulations.

D. Timber Removal

This year again the Nan Conifer Co. and the Nelson's Tree Farms harvested Christmas trees under their continuing permits. A third permittee Mrs. Wendell Iliff was given a permit to harvest Christmas trees on her tract. Mrs. Iliff had originally had a reservation to harvest Christmas trees until December 31, 1967 but the tornado of July 22, 1967 blocked her only access to her tree farm preventing a 1967 harvest. Due to this unavoidable delay, Mrs. Iliff was granted a permit to harvest in 1968.

This thinning of the pines along with the continued tornado damage cleanup in the southern portion of the refuge will greatly improve wildlife use in this part of the refuge. This activity also has a favorable visual impact on visitors showing practical application of good timber management techniques.

Permit #	Permittee	Type of Permit	Cost	Amount
1	Nan Conifer Co.	Christmas tree	Norway 25¢/tree	2,770 @
		Removal	Scotch 25¢/tree	\$873.80
2	Nelson's Tree Farms	Christmas tree	Tree @ 25¢/tree	1,522 @
		Removal		\$380.50
14	Mrs. Wendell Iliff	Christmas tree	Tree @ 25¢/tree	277 @
		Removal		\$56.75

V. Field Investigations Or Applied Research

A. Proposed Study

A study pending approval has been proposed to establish migration of the Sherburne NWR breeding population of giant Canada geese to Clarence Cannon NWR for wintering. Details will be provided in the 1969 report if the study is approved.

B. Progress Report On the Captive Giant Canada Goose Flock

The first 15 giant Canada geese arrived in the spring of 1967 and were kept in a temporary pen on Orrock Lake at the Ass't. manager's residence. One pair nested and produced four goslings. The flock was later moved to the 15 acre permanent facility in the shop area as reported in 1967.

By the spring of 1968 the flock had been increased to 101 birds through additional purchases. Sixteen pairs were isolated and placed in the sixteen available breeding pens. Two

breeding data is summarized on the following page. All of the 28 goslings raised in 1968 and four goslings of 1967 were color-banded with numbered red bands.

During the fall roundup on November 12, five geese were culled from the flock and later sent with the 16 wild geese caught at the time to Muscatattuck NWR. One gosling and one nonbreeding adult disappeared; one poorly clipped, mated bird was shot off the refuge; and one mated bird died of unknown causes. This leaves a present total of 120 geese; 89 adults, 4 yearlings, and 27 goslings.

A summary of the fall weights taken November 12, is presented in the following table. It is felt here that the weights of these birds leave much to be desired if we are truly stressing development of a flock of Branta canadensis maxima. Further culling with assistance from personnel of the Northern Wildlife Research Center and additions to the flock are planned for early 1969.

1968 Fall Weights of Sherburne NWR Goose Flock

Weight (pounds)	Nonbreeding Adults		Breeding Adults		1967 Total Yearlings	1968 Goslings
	M	F	M	F		
8.0-8.9		1		1	2	1
9.0-9.9				1	1	2
10.0-10.9	3	2	4	7	16	9
11.0-11.9	8	9	4	4	25	9
12.0-12.9	12	4	6	3	25	6
13.0-13.9	10	3	3	1	17	
14.0-14.9		2			2	
15.0-15.9		1			1	
Totals	33	22	17*	17**	89	27

* One mated adult male was killed after raising four goslings.

** One mated adult female died of unknown causes after raising four goslings.

1968 Giant Canada Goose Production Data

I. Production in Breeding Pens (8 nests)

Pen #	Pair*	Date of Pen Introduction	Date of 1st Egg	#Eggs	Date of Hatch	Days from 1st Egg to Hatch	Goslings Hatched	Mortality
1	R-1,S-1	3/30	4/17	6	5/21	33	5	2
2	R-2,S-2	3/30	4/16	5	5/21	34	5	0
3	R-3,S-3	3/29	4/15	7	5/21	36	4	0
4	R-4,S-4	3/29	4/18	5	5/23	35	5	0
5	R-5,S-5	3/28	4/19	6	5/24	35	2	0
7	R-7,S-7	4/9	4/22	4	5/28	36	3	0
9	U-1,Y-1	3/29	4/22	6	Abandoned			
15	U-7,Y-7	4/2	4/27	4	Abandoned			
Totals				43			24	2**

II. Production In Nests Outside Breeding Pens (7 nests)

Location	Pair*	# Eggs	Date of 1st Egg	Date of Hatch	Goslings Hatched	Mortality
Willow	U-0,Y-0	5		4/24	5	1
Rye	R-0,S-0	6		6/12	5	3
1st Nest on legs		3	4/21	Abandoned		
S W Corner		4	4/22	Abandoned		
Keyhole pond E		3		Abandoned		
Keyhole pond W		2		Abandoned		
Keyhole pond S		2		Abandoned		
Totals		25			10	4**

* All males were color-banded with numbered green bands on the left leg and females on the right leg.

** The two goslings lost from the pair R-1,S-1 and the 3 goslings lost from pair R-0,Y-0 were apparently killed by a great horned owl that was later caught(6/16/68) in a pole trap.



Our original set of sixteen, fifty foot square breeding pens. Each is supplied with a watering pool, nesting structure, and covered grain feeder.



Although early, the lack of green vegetation in this pen for grazing and later protection of goslings is apparent. One gosling was lost to an owl from this pen. Fall rye has been seeded in all pens for 1969.



All goslings were banded with these red plastic coated bands and adult breeders with green bands. This color coding and abbreviated numbering system will make handling the birds faster and easier in the future.

VI. Public Relations

A. Recreational Uses

Public use is of growing importance throughout the refuge system and its impact is being felt to a great degree at Sherburne. The refuge is within an hour's drive of almost two million people from the Minneapolis-St. Paul area, and the challenging task of developing a good public use plan compatible with wildlife use has just begun. Over 10,000 people visited the refuge in 1968 and with current recreational development we expect easily two or three times that many in 1969.

Recreational development included the following projects:

1. Goose Pen Observation Platform An observation platform

with a deck, 24'X 24'X 6', and an accompanying parking area were constructed at the Canada goose show pen. This has proven to be very popular, particularly since the addition of the two trumpeter swans. A planned interpretive sign was late in arriving but will be in place during early 1969.

2. Visitor Contact Stations Two visitor contact stations with entrance roads and parking lots were constructed, one at the county road 9 entrance on the east boundary and one at the county road 5 entrance on the north boundary. Construction of these facilities was not completed until late in 1968 and the accompanying displays should be in place early in 1969. Two vault-type comfort stations were also added at the station on the north boundary. Each station is equipped with a security light to help prevent vandalism. Two more stations are planned for construction in 1969.

3. Self-guided Nature Trail The first loop of a planned three loop nature trail was cleared and opened to the public. An observation tower on the trail, overlooking Rice Lake, was designed and built by refuge personnel. The deck of the tower is 15 feet above the ground and measures 24 feet long and 6 feet wide. The poles are salvaged telephone poles purchased at \$.10 per foot. Total costs for the tower came to approximately \$700. A series of interpretive signs concerning the 35 Indian burial mounds on the trail and various ecological features were planned during the summer, but were also late in arriving. The first loop is approximately $1\frac{1}{4}$ miles long and received good use from visiting summer school groups. A large parking area and two vault-type comfort stations were also built at the start of the trail. Two more loops of the trail, more signs, another observation tower, a marsh boardwalk, and a trail leaflet are all planned for the near future.

4. Snowmobile Trail A $9\frac{1}{4}$ mile snowmobile trail was opened on an experimental basis south of Rice Lake. Development of a planned visitor contact station will include a parking area that will double as parking for the snowmobile trail also. This trail was opened during the last week of 1968 and is receiving good use and causing no problems. The only complaint so far is our restriction of the trail to daylight use only. Our snowmobile problems do not involve the trail but the use of snowmobiles on other parts of the refuge. These problems will continue until further acquisition eliminates the patchwork pattern of ownership and further boundary fencing and posting can be completed.

B. Refuge Visitors

It was anticipated that a drop in visitors might be expected with our relocation from an office in downtown Princeton to one located on the refuge, but although the frequency decreased, the length of each visit increased.

There were many more visitors who were specifically interested in refuge tours, areas of interest, etc., rather than general conservation problems or questions.

The following persons are frequent callers at the Refuge Office:

<u>Name</u>	<u>Title</u>	<u>Organization</u>	<u>Address</u>
Jack Wolf	Appraiser	BSF & W	Minneapolis
Brian Garvey	District Forester	M.C.D.	Zimmerman
Wayne Forsythe	Game Warden	M.C.D.	Big Lake
Dick Simmons	Game Warden	M.C.D.	Princeton
Geo. "Pat" Anderson	Co. Commissioner	Sherburne Co.	Princeton
John Thompson	Co. Commissioner	Sherburne Co.	Princeton
Russ Matchinsky	Co. Engineer	Sherburne Co.	Elk River
Walt George	Ass't to Co. Engr.	Sherburne Co.	Elk River
Milt Stensrud	Co. Commissioner	Sherburne Co.	St. Cloud

Other official visitors who visited the refuge are as follows:

<u>Date</u>	<u>Name</u>	<u>Title or Organization</u>	<u>Address</u>	<u>Purpose</u>
1/2	John Zwach	Congressman	St. Cloud	Informational
1/3	Wesley Jones	State Supvr. BSF&W	Pierre, S.D.	Pick up jeeps
1/3	Joe Marback	Pilot, BSF&W	Pierre, S.D.	Pick up jeeps
1/11	Bill Aultfather	Forester, BSF&W	Mpls.	Forestry &
1/11	Marv Duncan	Pub. Use Spec. BSF&W	Mpls.	Snowmobile Trail
2/21	Bill Aultfather	Forester, BSF&W	Mpls.	Forest problems
3/7	Ed Crozier	Planning Spec.	Mpls.	Public Use
3/7	Chuck Johnston	Interpretive Spec.	Mpls.	Public Use
3/15	Chuck Johnston	Interpretive Spec.	Mpls.	Plan for I.C.S.
3/25	Dr. Cesnick & sons		Sauk Rapids	Demonstrated crow calls
3/28	Jim Goettle	Surveyor, BSF&W	Mpls.	Boundary problem
4/11-12	Herb Troester	Ref. Mgr. Tewauken NWR,	Cayuga, ND	Visit
4/12	Ron Erickson	Biologist, WHP	Jamestown, ND	Visit
4/15	Norm Johnson	State Supv. Wildlife Svcs.	Minn.	Gopher control
4/16	Roy Lhotka	Weed Insp. SCS	St. Cloud	Crop stripping
4/16	Chuck Johnson	Interp. Spec.	Mpls.	Indian Mounds
4/16	Dr. Cooper	Anthropologist Sci. Mus.	St. Paul	Indian Mounds
4/17	Chuck Johnston	Interp. Spec.	Mpls.	Plan for I.C.S.

<u>Date</u>	<u>Name</u>	<u>Title or Organization</u>	<u>Address</u>	<u>Purpose</u>
4/18	Lee Henness, Area Game Mgr, M.C.D.		Mora, Mn.	Visit
4/25	Ray St. Ores	Wildlife Services	Mpls.	Goose Nests
5/5	Dr. Bill Green	Biologist, Upper Miss.	NWR, Winona	Tour
5/5	11 Ref. Mgr. Trainees, Arden Hills			Tour
5/6	Chuck Johnston	Interp. Spec.	Mpls.	Interp. problems
5/6	Joseph Knecht	Engr., BSF&W	Mpls.	Interp. problems
5/9	John McDermant	SCS	Bismarck, ND	Calibrate grass
5/9	Roy Lhotka	SCS	St. Cloud	drill
5/10	Orville Berry	Area Cons., SCS	St. Cloud	Grass seeding
5/10	Clayton Hart	SCS	St. Cloud	Grass Seeding
5/10	Roy Lhotka	SCS	St. Cloud	Grass seeding
5/10	Rollie Johnson	WCCO-TV	Mpls.	Tour
5/10	Dave Yeager	Fed. Cart. Corp	Anoka	Tour
5/10	Dr. V.C. Johnson		Anoka	Tour
5/13	Bill Aultfather	Forester	Mpls.	Forest Insect &
5/13	Mr. Grittmann	Forester	WashingtonDC	Disease
5/13	Mr. Verlon	Forester		Control
5/22	Clarence Mordahl	Weed Insp., Sher. Co.	Elk River	Leafy Spurge prob.
6/5	Lowell Hoffman	Administrative Off.	Mpls.	Tour
6/5	Mrs. Christianson	BSF&W	Mpls.	Tour
6/5	Mrs. Edquist	BSF&W	Mpls.	Tour
6/5	John Nelson	Fish Hatcheries	Bismarck, ND	Pick up jeeps
6/5	Mr.&Mrs. Stu Murrell, Idaho F&S Comm.		Idaho	Visit & Tour
6/17	Jim Monnie	A'sst Reg, Supvr.	Mpls.	Tour
6/17	John Winship	Pilot-Biologist	Mpls.	Air Inspection
6/24	Chuck Johnston	Interp. Spec.	Mpls.	Interp. planning
6/24	Ed Crozier	Planning Spec.	Mpls.	Interp. planning
7/5	Chuck Johnston	Interp. Spec.	Mpls.	Trail development
7/5	John Jaroz	Natural Histroy Museum	Mpls.	Trail development
7/6	Mr.&Mrs. Chet Lund	Prop. Officer	Mpls	Tour
7/8	Brian Garvey	Area Forester	Zimmerman	Pub. Use problems
7/8	Trainee Hollandage, Forester		Zimmerman	Pub. Use problems
7/8	Harold Poeschel	SCS	St. Cloud	check nativer
7/8	George Holmberg	SCS	St. Cloud	grass seedings
7/8	Don Atkins	SCS	St. Cloud	on the
7/8	Clayton Hart	SCS	St. Cloud	Refuge
7/8	John McDermant	SCS	St. Cloud	
7/9	Don Reilly	Photographer, BSF&W	Mpls.	Photos for publicity
7/18 & 19	Dr. Bill Green, Biologist, Upper Miss.	NWR		Goose marking exper.
7/19	Gordon Jensen	Realtor, BSF&W	Mpls.	Realty problems
7/19	Dave Smith	Realtor, BSF&W	Mpls.	Realty problems
7/19	Geo. Bikarras	Realtor, C.O.	WashingtonDC	Realty problems

Date	Name	Title or Organization	Address	Purpose
7/31	David Lanegran	Economist	Mpls.	Economic Study
7/31	Robert Marcotte	Economist	Mpls.	of Sher. Co.
8/1	Cliff Halsey	U. of Minn.,	St. Paul	Planning for
8/1	Dave Hart	SCS	St. Cloud	Conservation
8/1	Curt Clint	Co. Ext. Serv.	St. Cloud	Workshop
8/8	Bill Aultfather	Forester BSF&W	Mpls	Timber inspection
8/8	Mr. Gritzman	Forester, C.O.	WashingtonDC	Timber inspection
8/12	Les Dundas	Staff Spec., BSF&W	Mpls.	Orientation for
8/12	E.H. McCollum	Mingo JCCC	Missouri	Mr. McCollum
9/4	Ron Easton	Prop. Mgmt. Ass't.	Mpls.	pick up boat trlr.
9/10	Cliff Halsey	U. of Minn. Ext. Off.	St. Paul	Conservation
9/10	Dave Hart	SCS	St. Cloud	Workshop
9/10	Curt Clint	Co. Ext. Serv.	St. Cloud	planning
9/10	John Winship	Pilot-Biologist	Mpls.	Aerial census
9/13&12	James Monnie	A'sst. Reg. Supvr.	Mpls.	Inspection
9/16	Dr. Lee Frederickson	Univ. Of Miss.	Puxico, Missouri	Tour
9/16	Al Johnson	Dist. Forester	Tamarac NWR	Timber inspection
9/16	Bob Johnson	Area Forester	Tamarac NWR	Timber inspection
9/26	Jim Hubert	Wetlands	Benson, Mn.	Pick up jeeps
9/26	Jack Womble	Wetlands	Benson, Mn.	Pick up jeeps
10/1	Mr. & Mrs. Charles Stickney		Big Lake	Tour
10/3	John Idstrom	M.C.D., Biologist	Mpls.	Visit
10/14	Jack O'Konek	Former Pres. M.C.F.	Hill City	Visit
10/14	Charles Holm	M.C.F.	Hill City	Visit
10/14	D.E. Hutchinson	Soil Cons. Soc. of Amer.	Lincoln, Neb.	Tour grass pltg.
10/17	Forest Lee	N.P.W.R.C.	Jamestown ND	Inspect Canada
10/17	Art Hawkins	Miss. Flyway Council	Rochester	Goose
10/17	Maynard Nelson	M.C.D.	St. Paul	Flock
10/30	Dale Palmer	Sher. Co. Tax. Assessor	Elk River	Check acquisition
11/6	James Monnie	A'sst Rg. Supvr.	Mpls.	Inspec. fence prob.
11/6-7	Barney Schranck	Mgr. Clarence Cannon	NWR, Missouri	Res. Inv. orientation
11/16	Charles Scheffe	Mgr. Muscatatuck	NWR Indiana	pick up geese
12/5	Marv Duncan	Pub. Use Spec. BSF&W	Mpls	Snowmobile trail
12/6	Robley Hunt	Henn. Co. Park Dept.	Maple Plain	Pick up D-8

C. Refuge Participation

Off-refuge participation remained about the same for 1968, but there was a sharp increase in the number of on-refuge activities. Tours by school groups caused most of this increase. Considering this was the first year we actively promoted this type of participation, use was much higher than anticipated. The enthusiastic response seems to indicate a continuing rise may be expected in following years.

The following groups were handled by Manager Carlsen:

Date	Organization	Town	Attendance	Program
1/16	Tri.Co. Cons. Club	Princeton	45	Movie
1/18	Chamber Commerce	Princeton		Board of Dirs.
1/18	4-H Club	Long Siding	40	Talk
2/1	Trinity Luth. Ch.	Princeton	60	Movie-Men's nite
2/20	S.C.S Area meeting	St. Paul	35	Slide-talk
2/20	Tri Co. Cons. Club	Princeton	65	Movie
2/26	Sportsmen's Club	Hill City	45	Slide-talk
2/27	Moose Willow Proj.	MCF Hill City w/Pres. O'Konek		- Tour
3/2	Minn. Bird Club	Mpls.	11	Tour
3/4	Chamber Commerce	Princeton		Emerg. Hospital meeting Bd. Dir.
3/6	Community Wildlife	Club St. Cloud	80	Talk
3/7	Tri Co. Cons. Club	Princeton	14	Built Mallard nests-20
3/19	Tri Co. Cons. Club	Princeton	50	Movie
3/25	Chamber Commerce	Princeton	-	Program Chmn.
4/2	Lions Club	Ham Lake	45	Slide-talk
4/3	Sher. Co. Cons. Club	Big Lake	25	Slide-talk
4/8	Kiwanis Club	St. Cloud	80	Cons. Ed. on Refuge
4/15	Boy Scout Troop	Princeton		Assisted teaching scoutcraft
4/16	Tri-Co. Cons. Club	Princeton	20	Movie
4/22	Tri-Co. Cons. Club	Princeton		Planted trees on refuge
4/25	Tri-Co, Cons. Club	Princeton		Assisted cleaning 400 lbs. smelt
5/7	Swanville H. S. Biology Class		30	Tour
5/7	Kiwanis Club	Anoka	65	Slide-Talk
5/11	Univ. Biology Club	St. Johns Univ.	40	Tour
5/14	Cub Scouts	Princeton	16	Ref. Orientation
5/16	South H.S. Biology class	St. Cloud	56	Tour
5/20	D. Grether & Class	St. Cloud	-	Tour
6/3	Tri-Co. Cons Club	Princeton	27	Big Game Bar-B-Q on Refuge
6/12	Mr. Vallen & Class	St. Cloud	46	Tour
6/20	Rotary Club	Elk River	22	Talk & Slides
6/20	Cons. Club	Buffalo	11	Talk-slide
6/24	School class	Braham	14	Tour
6/25	School class	Braham	14	Tour
6/26	6th Grade	St. Cloud	40	Tour
6/27	8th Grade	St. Cloud	62	Tour
7/2	4-H Club	Long Siding	15	Tour
7/12-13	Luther League	Princeton		- Chaperoned Camping trip
8/6	U of M Landscape arboretum,	Mpls.		Tour of area & park
8/29	Kiwanis Club	Fridley	24	Slide-talk
9/10	Nat. Res. SCS	--	25	Workshop
9/14	MCF Convention	Quadna Mtn.	-	Slide-Talk
9/19	Nat. Ctr.MCD	Cedar Creek		Tour of Nat. Hist. area
9/24	J.C.'s Club	Anoka	-	Slide-Talk
9/28	Cons. Class	St. Cloud S.C.	20	Tour

The following groups were handled by Assistant Mgr. Schranck:

<u>Date</u>	<u>Organization</u>	<u>Town</u>	<u>Attendance</u>	<u>Program</u>
1/11	6th Grade	Princeton	42	Slide-Talk
1/31	Co. weed Seminar	Elk River	-	Attended
2/7	Sher. Co. Sportsmen Club		25	Attended
2/15	Sportsmen's club	Clear Lake	75	Talk
3/2	Minn. Bird Club	Mpls.	15	Tour
3/6	Odegard's Garage	Princeton	30	Talk-Movie
3/18	Public School	Becker	400	Nat. Wildlife program
3/19	Washington Schl.	St. Cloud	50	" " "
3/19	Garfield Schl.	St. Cloud	70	" " "
3/19	Madison Schl.	St. Cloud	80	" " "
3/19	Lincoln Schl.	St. Cloud	200	" " "
3/20	School	Isanti	120	" " "

The following groups were handled by Assistant Mgr. Goeke:

<u>Date</u>	<u>Organization</u>	<u>Town</u>	<u>Attendance</u>	<u>Program</u>
6/3	Tri-Co. Cons. Club	Princeton	27	Bar-B-Q on Refuge
6/8	Minn. Bird Club	Mpls.	17	Tour
6/12	School group	St. Cloud	46	Tour
6/17	School group	Princeton	14	Tour
6/18	School group	Princeton	14	Tour
6/20	Rotary Club	Elk River	22	Talk-slide
6/20	Sportsmen Club	Buffalo	11	Talk-slide
7/13	MCF meeting	Robbinsdale	75	Attended
8/29	Kiwanis	Fridley	24	Talk-slide
9/5	Cub Scouts	Princeton	10	Tour
9/17	Nat. Res. Workshop	Area-wide	163	Tour
9/18	Nat. Res. Workshop	Area-wide	300	Tour
9/26	Cathedral H.S.	St. Cloud	16	Tour
10/5	Minn. Bird Club	Mpls.	9	Talk
10/5	PTA	Big Lake	110	Slide-Talk
10/25	U of Minn. Seminar	St. Paul	14	Talk-Tour
10/26	U of Minn. Seminar	St. Paul	14	Talk-Tour

The following groups were handled by Soil Conservationist McCollum:

<u>Date</u>	<u>Organization</u>	<u>Town</u>	<u>Attendance</u>	<u>Program</u>
10/19	Boy Scouts	St. Paul	17	Tour
11/23	Boy Scouts	Mpls.	7	Tour

The following groups were handled by Wildlife Aide Marrs:

<u>Date</u>	<u>Organization</u>	<u>Town</u>	<u>Attendance</u>	<u>Program</u>
6/8	Minn. Bird Club	Mpls.	17	Tour
6/12	Madison School	St. Cloud	50	Tour
6/17	9th Grade	Princeton	14	Tour
6/18	9th Grade	Princeton	14	Tour
6/24	11th Grade	Braham	15	Tour
6/24	11th Grade	Braham	15	Tour
6/26	6th Grade	St. Cloud	60	Tour
6/27	8th Grade	St. Cloud	40	Tour
7/3	Roosevelt School	St. Cloud	73	Tour
7/5	Camp-In-The-Woods	Zimmerman	60	Tour
7/9	Garfield School	St. Cloud	40	Tour
7/9	Central H.S.	Norwood	9	Tour
7/17	School Group	St. Cloud	32	Tour
7/30	Girl Scouts	Princeton	61	Tour
7/31	Camp Courage	Minnesota	25	Tour
8/1	Camp Courage	Minnesota	21	Tour

D. Hunting

The two closed areas including goose pen-maintenance shop areas and Long Pond. The Long Pond area was extended to the south to include the nature trail area on the north side of Rice Lake.

Minnesota's split duck season ran from October 5-13 and October 26-November 12. Approximately 3000 ducks were present on the first opening and the weather was cold and windy with rain beginning in mid-afternoon. With the unusually high water levels the ducks were widely dispersed over the refuge and the large number of hunters had only spotty success. Several groups checked, claimed the hunting to be fantastic while others were almost skunked. Opening day bags consisted primarily of mallards, green-winged teal, and pintails.

Within an hour of the season's opening it was marred by a fatal hunting accident on Rice Lake. Noel Knox, 19, of rural Zimmerman, Minnesota, fatally wounded himself when he picked up his 12 gauge double-barrelled shotgun. The gun was already cocked and when he picked it up by the muzzle, one barrel discharged hitting him in the chest and almost severing his right arm. Refuge personnel assisted in directing the ambulance to the scene and carrying out the stretcher, but Knox was dead on arrival at the hospital.

Four and one half inches of rain on October 16-18 brought the already high St. Francis River out of its banks, flooding most of the refuge lowlands. This included flooding 30 acres of corn and helped hold over 3000 ducks going into the second half of the hunting season. Although there weren't as many hunters, there were actually more ducks and the split season gave the effect of a second opening day. Two-thirds of the ducks were mallards and most hunters easily filled that part of their bag, but few killed their three bird limit. Throughout most of the second season 2500 ring-necks and scaup used Long Pond right up to freeze up on November 11. About 400 hardy mallards and black ducks held out another week on a small open area of the St. Francis River before it too froze over.

No Canada geese were known to have been killed on the refuge, but one blue goose was shot by an opening day duck hunter on Lake Josephine. Goose hunters were not abundant before the opening of duck season. There were usually enough though to keep the birds flying and prevent their use of the refuge.

A record or near record harvest of ruffed grouse was expected in 1968. Hunting was good but most hunters were reluctant to hunt in the semi-flooded areas and many birds went untouched.

The deer season was lengthened from five to seven days and again was limited to rifled slugs only. Approximately 350 hunters were present over the opening weekend and considerably fewer later in the week as enthusiasm waned and jobs beckoned. Due to the uncontrolled access of the hunting areas and the absence of a mandatory check station, accurate hunter use and harvest are difficult to ascertain. Again, the high water conditions posed a problem for the hunters and success was very low. Possibly fewer than ten and not more than twenty deer were harvested. When acquisition is completed and the boundary fenced and posted, accurate figures on hunter use and success will be possible.

E. Violations

Due to the patchwork ownership pattern and the lack of complete boundary fencing and posting, law enforcement is difficult. The refuge, however, receives excellent cooperation from M.C.D. wardens Wayne Forsythe and Dick Simmons. This year refuge personnel were in better position for law enforcement work. During August Refuge Manager Carlsen, Ass't Manager Goeke and Maintenance Foreman Thompson attended the Bureau's Law Enforcement Workshop at Madison, Wisconsin. Soil Conservationist

McCollum also brought past enforcement experience from Missouri. Much time was spent in patrol and making our presence known. It is felt that this helped cut violations appreciably from previous years. The following is a list of the apprehensions processed through local courts.

<u>Date</u>	<u>Name</u>	<u>Address</u>	<u>Violation</u>	<u>Disposition</u>
10/5	Robert L. Reichert	Mpls.	Overpossession	\$15+4 costs
10/5	Van W. Hendricks	Mpls.	Unplugged gun	\$15+4 costs
10/5	Herbert Lowers	Mpls.	Unplugged gun	\$15+4 costs
10/8	Charles A. Griep	Mpls.	Taking waterfowl in open water	\$15+4 costs
10/8	Roy Emmet Kriesel	Mpls.	" "	\$15+4 costs
10/8	Richard E. Koenig	Mpls.	" "	\$15+4 costs
10/14	Norman B. Metcalf	Princeton	ducks out of season	\$15+4 costs
10/26	Joseph D. Brush	Mpls.	No stamp & late shooting	Pending (moved out of state)

F. Safety

Monthly SAFETY meetings were held throughout the year, and discussion of specific problems occurs daily.

The entire staff completed the Defensive Driving Course early in December.

<u>Date</u>	<u>Subject</u>	<u>Chairman</u>
1/22	Defensive Driving	Carlsen
2/19	First Aid	Trebesch
3/18	Chain Saw SAFETY	Carlsen
4/15	Vehicle maint. & SAFETY checks	Carlsen
5/20	Motor Vehicle Safety	Carlsen
6/19	Fire Fighting	B. Garvey (M.C.D.)
8/2	Fire Control Methods	Thompson
9/3	Fencing & Carpentry Hazards	Carlsen
10/11	Fire Safety	Goeke
11/22	Family Safety	McCollum
12/3	Defensive Driving Course	L. Miller (Reg. Safety Officer)

This station has operated 1163 days without a lost time accident.

VII. Other Items

A. Items of Interest

1. Personnel Personnel changes on the Sherburne Refuge have occurred with almost dizzying frequency during the past year.

On April 6, 1968 Assistant Refuge Manager Barney Schranck was transferred to Clarence Cannon Refuge at Annada, Missouri. His replacement David E. Goeke did not arrive until June 3. Mr. Goeke was formerly a high school biology teacher in Farmer City, Illinois.

A new position of Soil Conservationist was added to the staff in August and Homer McCollum transferred from the Mingo JCCC in Missouri to fill the position. His primary job was to manage the refuge farming program, but was soon called on to fill the position of acting Refuge Manager.

In October Refuge Manager John Calrsen was transferred to the Regional Office in Minneapolis to assume the position of Assistant Regional Supervisor. John had filled the position of Refuge Manager at Sherburne since its opening in 1965.

In December Robert Yoder transferred from Fish Springs NWR, Utah to Sherburne as the Refuge Manager. He was immediately preceded and followed by a snowstorm. As if this was not welcome enough, within a few days he found himself in the hospital recovering from pneumonia. It is hoped his stay at Sherburne will not continue along this vein.

Our summer staff was supplemented this year by Biological Aid, Robert Marrs who assisted very capably with an expanded interpretive program. During the school year, Bob is a science teacher in the St. Cloud, Minnesota school system.

The maintenance staff of the refuge also had its changes. In May Merlin Wicktor received a temporary appointment as Heavy Equipment operator, general.

Wesley Thompson was promoted from Maintenance man (WB-5) to Maintenance Foreman (WB-7) in August of this year.

2. Acquisition As of December 31, 1968, 21,693 acres or approximately 71% of the land within the refuge had been either purchased or optioned. Although acquisition has slowed down a little, we are still progressing towards the final goal of 100% acquisition, possibly in 1971.

The attached map shows the tracts under Bureau control or option prior to 1968 in red and those optioned in 1968 in

SHERBURNE NATIONAL WILDLIFE REFUGE

SHERBURNE COUNTY, MINNESOTA

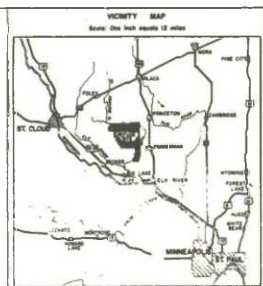
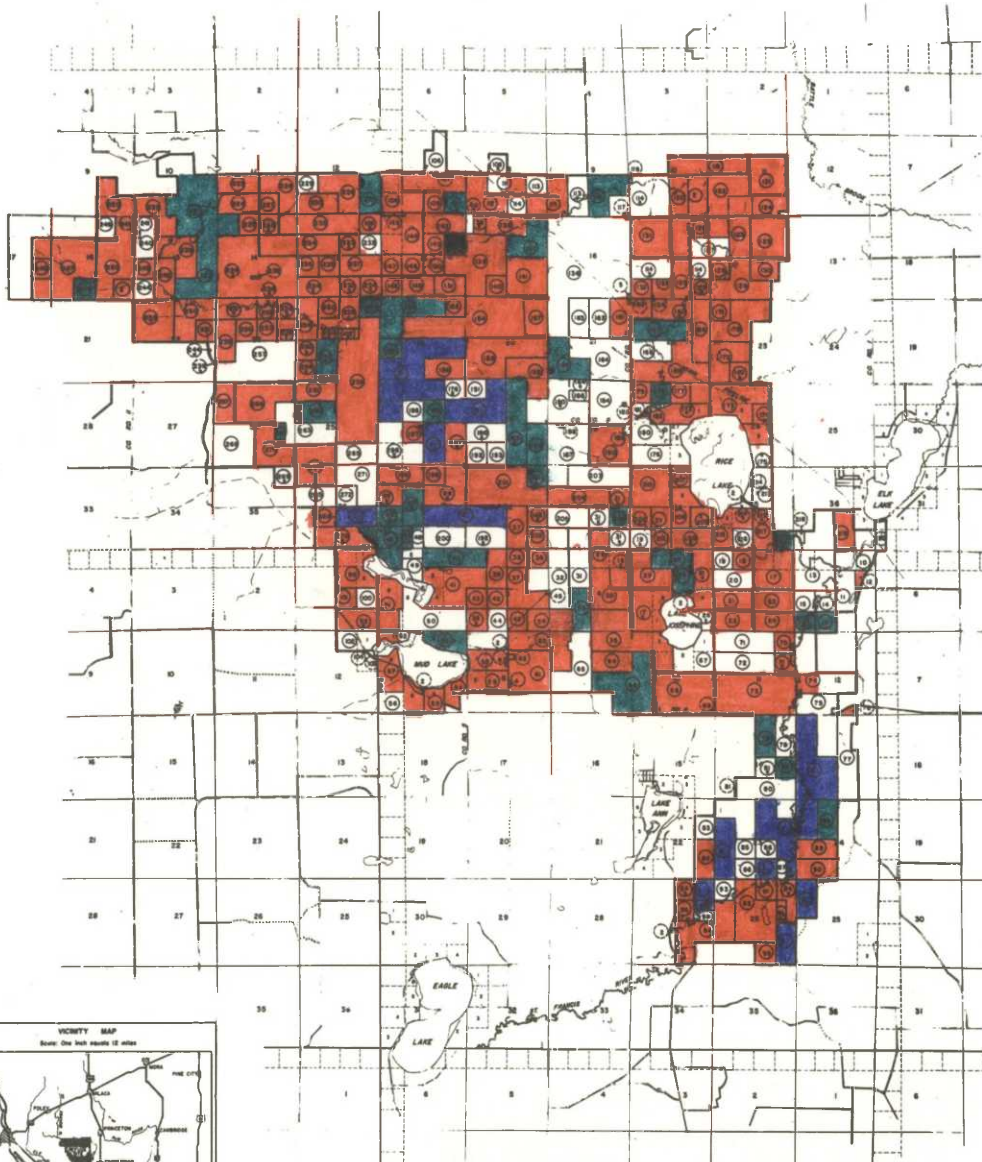
UNITED STATES
DEPARTMENT OF THE INTERIOR
93° 50'

R. 28 W. R. 27 W.

93° 40' R. 27 W. R. 26 W.
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE

45° 35'
T. 36 N.
T. 35 N.
45° 30'
T. 35 N.
T. 34 N.
45° 25'
T. 34 N.
T. 33 N.

45° 35'
T. 36 N.
T. 35 N.
45° 30'
T. 35 N.
T. 34 N.
45° 25'
T. 34 N.
T. 33 N.



- Land Optioned Prior to 1968
- Land Optioned in 1968
- State Land

COMPILED IN THE BRANCH OF ENGINEERING
FROM AERIAL PHOTOGRAPHS AND SURVEYS
BY THE U.S.G.S.

MINNEAPOLIS, MINNESOTA JAN, 1963

R. 28 W. R. 27 W.

93° 40' R. 27 W. R. 26 W.

FOURTH PRINCIPAL MERIDIAN

Scale 0 1 2 3 4 5 6 7 8 9 10 MILES

TOWNSHIP
DIAGRAM

MEAN
DECLINATION
1960

in green. The blue indicates state lands which are in the process of being transferred to the Bureau. With both State and Federal "red tape" involved this has become a lengthy procedure.

3. Credits Sections III A thru F, IV A - E, VI F, and VII A were prepared by Soil Conservationist Homer McCollum. Sections II A - I, V A, VI A, B, D, E and VII A were prepared by Assistant Manager Dave Goeke, Biological Technician Dennis Strom prepared section VII A. Sections I A, VI C, VII A and the typing of the Narrative were done by the Refuge Clerk Pat Dunham. The photographs and captions were assembled by Mr. Goeke. Overall coordination and editing was done by the Refuge Manager Bob Yoder.

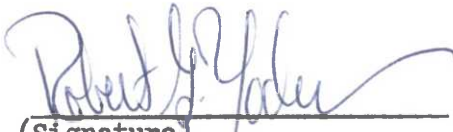
4. Photographs The photographs that appear within the Narrative itself were taken by Assistant Manager Goeke. The color pictures appearing in the photo section were taken by Pilot-Biologist John Winship and the black and white photos were taken by Division of Refuge Photographer Don Reilly.



SIGNATURE PAGE

33.

Submitted by:

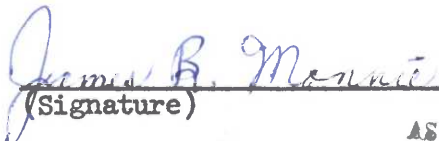

(Signature)
Robert G. Yoder

Refuge Manager
(Title)

Date: 2/28/69

Approved, Regional Office:

Date: MAR 5 1969


(Signature)

ASST

Regional Refuge Supervisor



Sherburne Refuge crew from left to right: Heavy Equipment Operator Merlin Wicktor, Maintenceman Hank Trebesch, Manager John Carlsen, Laborer Orville Johnson, Clerk Pat Dunham, Laborer Gordon Wold, Laborer Milt Elveru, Maintenceman Reuben Mathison, Soil Conservationist Homer McCollum, Assistant Manager Dave Goeke and Foreman Wesley Thompson.

The following pictures were made by Regional Photographer Don Reilly, of two school groups as they toured the refuge with Wildlife Aid, Bob Marrs.



Tours began with a short orientation speech at Refuge Headquarters.



Buses were then taken along a route through the refuge with frequent stops to explain ecological features, point out wildlife, or discuss management techniques. This group is observing a common loon on Bergerson Slough.

One of the major points of the tour was a guided walk along the first loop of the nature trail. Here the group has stopped atop one of the 35 Indian burial mounds along the trail to discuss a bit of the history of the region.





One part of the nature trail travels along refuge fields and provides opportunity to explain farming practices.



Poison ivy is abundant and consequently requires attention.



Tours generally ended at the Canada goose show pen where visitors had a good view of the geese and the trumpeter swans from the new observation deck. A closeup view is seen on the cover of this report.

Here the goals for our flock were explained and they could see our facilities, though usually not at this closeup range.



Refuge headquarters along the St. Francis River. This facility was opened in March and is a great improvement over the previous office in Princeton, Minnesota.

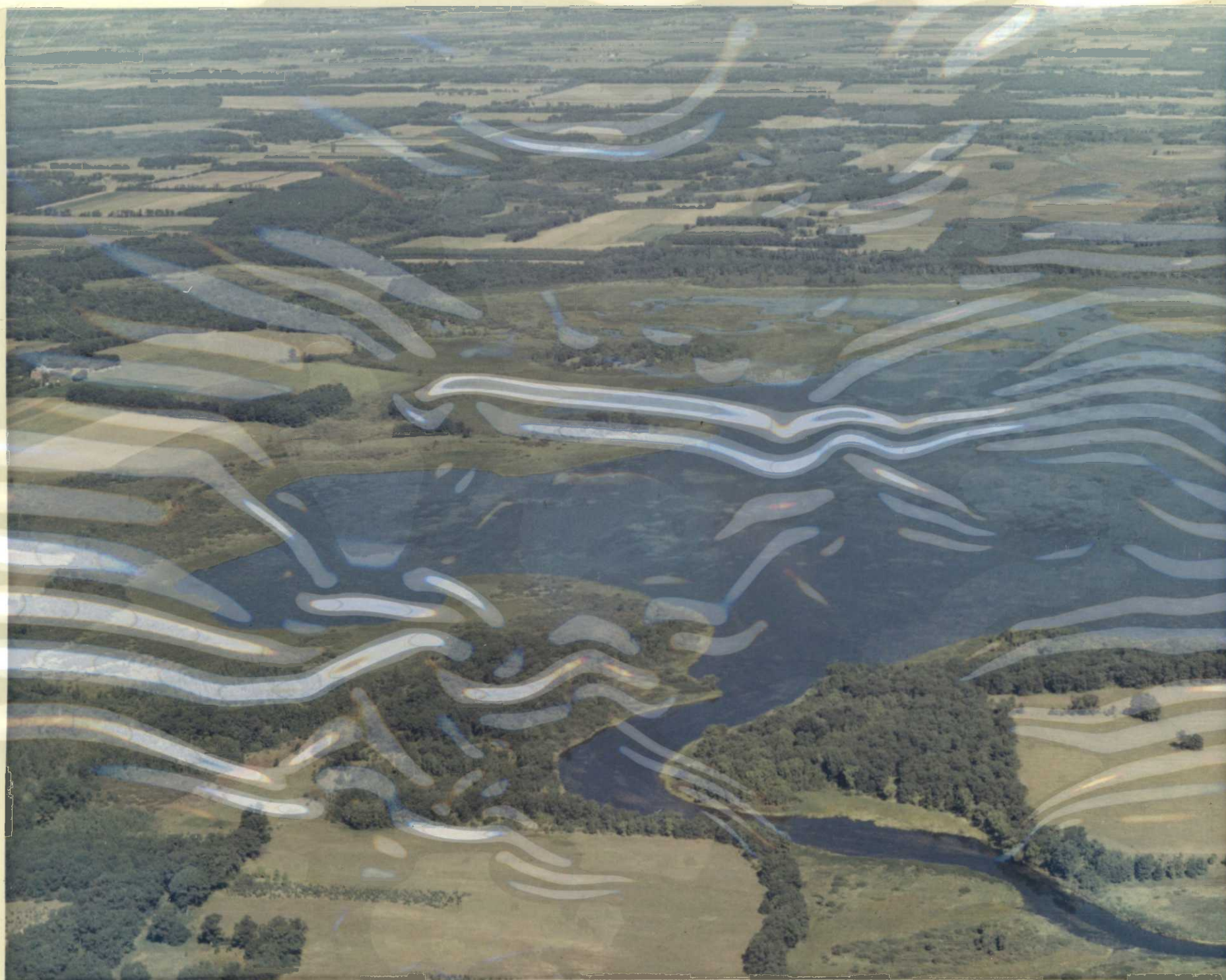




Refuge shop and Canada goose propagation facilities. The show pen with its observation platform is at the top. The partially dismantled breeding pens are in the center and the alternate pasture is at the bottom.

Long Pond, our first protected impoundment, held 2500 ring-necks
and scaup through the hunting season until freeze-up.





Rice Lake looking from the south over the St. Francis River outlet. The nature trail is located in the timbered area along the north side of the lake. The observation tower can be distinguished as a brown dot in the center of the picture on the edge of the woods along the north edge of the lake.

and then they went on to the north side of the lake to the
of the lake. The nature trail is located in the timbered area
the observation tower can be distinguished as a brown dot in the center of the picture on the edge of the woods along the north edge of the lake.

Lake Josephine with Bergerson Slough to the north near the top
of the picture. The aftermath of the 1967 tornado as it crossed
the lake from west to east or left to right can easily be seen.

On the shore of the lower slough, the water is in the lake.
It is characterized as a bloom of the center of the slough
around the lower end of the lake. The observation is not
correct. The water is in the lake in the slough area
and the water is in the lake in the slough area.





Looking from the south over Bergerson Slough. The western portion of the slough produced an excellent crop of wild rice.

WATERFOWL

REFUGE Sherburne NWR

MONTHS OF Jan 1 TO March 6, 1968

(1) Species	(2) Weeks of reporting period									
	Jan 1 3	Jan 2 10	Jan 3 17	Jan 4 24	Jan 5 31	Feb 6 7	Feb 7 14	Feb 8 21	Feb 9 28	Mar 10 6
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada										
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard										
Black										
Gadwall										
Baldpate										
Pintail										
Green-winged teal										
Blue-winged teal										
Cinnamon teal										
Shoveler										
Wood										
Redhead										
Ring-necked										
Canvasback										
Scaup										
Goldeneye										
Bufflehead										
Ruddy										
Other										
Coot:										

WATERFOWL

REFUGE Sherburne NWR

MONTHS OF March 13 TO May 15, 19 68

(1) Species	(2) Weeks of reporting period									
	Mar 13	Mar 20	Mar 27	Apr 3	Apr 10	Apr 17	Apr 24	May 1	May 8	May 15
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada	50	75	150	150	125	100	50			
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard	10	30	400	600	600	450	300	400	390	390
Black										
Gadwall					10	10		30	30	10
Baldpate					10	10		200	200	50
Pintail			5	10	5					
Green-winged teal		6	10	20	10	10	10	125	125	80
Blue-winged teal					10	400	600	700	600	500
Cinnamon teal										
Shoveler					10	50	75	30	30	
Wood			2	200	300	400	400	500	425	325
Redhead					20	20				
Ring-necked				300	400	400	100	120	120	75
Canvasback					50	50				
Scaup			25	200	300	50	50	25	25	
Goldeneye			10	20	20					
Bufflehead					2	10				
Ruddy										
Other										
Coot:				10	400	400	400	450	300	200

W A T E R F O W L

REFUGE Sherburne NWR

MONTHS OF May 24 TO July 24, 19 68

(1) Species	(2) Weeks of reporting period									
	May ¹ 24	May ² 29	June ³ 5	June ⁴ 14	June ⁵ 19	June ⁶ 26	July ⁷ 3	July ⁸ 10	July ⁹ 17	July ¹⁰ 24
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada										
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard	370	250	200	200	200	200	200	250	250	300
Black										
Gadwall	10									
Baldpate	20									
Pintail										
Green-winged teal	30	10	10	10	10	10	10	10	10	20
Blue-winged teal	500	300	140	90	90	90	90	100	170	290
Cinnamon teal										
Shoveler										
Wood	270	210	190	190	190	190	190	190	190	250
Redhead										
Ring-necked	50	50	30	30	30	30	30	30	30	10
Canvasback										
Scaup	210									
Goldeneye										
Bufflehead										
Ruddy			2							
Other										
Coot:	50	10	10	10						

W A T E R F O W L

REFUGE Sherburne NWR

MONTHS OF July 31 TO October 2, 19 68

(1) Species	(2) Weeks of reporting period									
	7/31	8/7	8/14	8/21	8/28	9/4	9/11	9/18	9/25	10/2
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada										
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard	300	300	300	300	300	400	800	1000	1600	1600
Black			20	20	20	20	30	40	50	50
Gadwall						50	75	270	150	75
Baldpate						40	75	150	150	150
Pintail	20	20	20	20	30	30	50	125	200	250
Green-winged teal	290	290	290	350	600	700	850	1100	400	300
Blue-winged teal										
Cinnamon teal										
Shoveler	390	390	390	390	390	450	500	500	250	200
Wood										
Redhead										
Ring-necked	10	10					10	80	160	270
Canvasback										
Scaup									25	25
Goldeneye									5	
Bufflehead										
Ruddy								4		
Other										
Coot:				40	100	300	450	1300	2200	4000

W A T E R F O W L

REFUGE Sherburne NWR

MONTHS OF October 9 TO Dec. 11, 19 68

(1) Species	(2) Weeks of reporting period									
	10/9 1	10/16 2	10/23 3	10/30 4	11/6 5	11/13 6	11/20 7	11/27 8	12/4 9	12/11 10
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada	16	16	16	32	16	16				
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard	1000	2000	2000	1000	400	400				
Black	30	75	75	35	15	15				
Gadwall	20	50	50	25						
Baldpate	75	50	50							
Pintail	100	50								
Green-winged teal	200	50								
Blue-winged teal	100	25	25							
Cinnamon teal										
Shoveler										
Wood	150	100	50	10						
Redhead		5	5	5	5					
Ring-necked	300	500	500	2200	2200					
Canvasback		22								
Scaup	25	50	50	300	300					
Goldeneye				5						
Bufflehead			5	5	5					
Ruddy										
Other										
Coot:	3000	3000	400	50	50					

3-1750a

Cor NR-1

(Rev. March 1953)

WATERFOWL
(Continuation Sheet)REFUGE Sherburne NWRMONTHS OF December 18 TO December 31, 1969

(1) Species	(2) Weeks of reporting period								(3) Estimated waterfowl days use	(4) Production Broods: Estimated seen : total	
	Dec. 18	Dec. 25									
Swans:	11	12	13	14	15	16	17	18			
Whistling									56		
Trumpeter											
Geese:									784		
Canada											
Cackling											
Brant											
White-fronted											
Snow											
Blue											
Other											
Ducks:									121,100	8	272
Mallard									3,465		
Black									1,575		
Gadwall									7,105		
Baldpate									10,325	1	14
Pintail									62,860	4	121
Green-winged teal									420		
Blue-winged teal									25,340	7	265
Cinnamon teal									140		
Shoveler									48,125	1	43
Wood									154		
Redhead									5,775		
Ring-necked									70		
Canvasback									105		
Scaup									42		
Goldeneye											
Bufflehead											
Ruddy											
Other											
Coots:											
									111,440		
					(over)						

	(5) Total Days Use	(6) Peak Number	(7) Total Production	SUMMARY
Swans	56	8	0	Principal feeding areas <u>Rice Lake, Mud Lake, Lake</u>
Geese	5684	150	0	<u>Josephine, Durgin Slough and Johnson Slough</u>
Ducks	335,181	3585	715	Principal nesting areas <u>Rice Lake, Mud Lake, Lake</u>
Coots	195,510	4000	0	<u>Josephine, Durgin Slough and Johnson Slough</u>
5 2 6 4 3 1				Reported by <u>David E. Goeke, Ass't Refuge Manager</u>

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.
- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).

3-1751

Form NR-1A
(Nov. 1945)

MIGRATORY BIRDS

(other than waterfowl)

Refuge Sherburne NWRMonths of January 1 to December 31 1968

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. <u>Water and Marsh Birds:</u>										
Common loon	2	5/17	5	6/19	2	8/21		1	0	5
American coots	6	5/1	4000	10/2	2	11/22				4000
Great blue heron	1	5/1	25	6/3	3	10/15	1	54		50
American bittern	1	5/1	6	6/3	1	8/9				20
Common egret	1	5/27	1	5/27	1	10/15				1
II. <u>Shorebirds, Gulls and Terns:</u>										
Black tern	2	5/1	25	7/8	6	8/14				100
Killdeer	5	3/19	30	7/26	3	9/11				150
Spotted sandpiper	1	6/10	5	8/9	1	8/28				50
Greater Yellowlegs	2	7/29	6	7/21	6	7/21				25
Lesser Yellowlegs	12	7/14	12	7/21	2	8/28				50
Least Sandpiper	15	7/6	25	7/21	1	8/30				100
Pectoral Sandpiper	1	7/26	1	7/26	1	8/9				5
Solitary Sandpiper	1	7/14	2	7/21	1	8/28				25
Short-billed dowitcher	1	7/13	1	7/13	1	7/13				1
Common snipe	1	9/6	1	9/6	1	10/3				5

(over)

(1)	(2)		(3)		(4)		(5)		(6)
III. <u>Doves and Pigeons:</u>									
Mourning dove	1	3/18	500	7/14	1	12/2		300	700
White-winged dove									
IV. <u>Predaceous Birds:</u>									
Golden eagle									
Duck hawk									
Horned owl	All year		35	6/5				25	50
Magpie									
Raven									
Crow	All year		150	10/21				50	200
Sparrow Hawk	2	3/18	150	8/9	1	10/1		100	300
Marsh Hawk	1	3/18	6	8/21	1	10/9		15	30
Red-tailed Hawk	1	3/18	3	7/28	1	9/14		15	40
Reported by						David E. Goeke, Ass't Refuge Mgr.			

INSTRUCTIONS

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)
 II. Shorebirds, Gulls and Terns (Charadriiformes)
 III. Doves and Pigeons (Columbiformes)
 IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) First Seen: The first refuge record for the species for the season concerned.
- (3) Peak Numbers: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated total number of the species using the refuge during the period concerned.

3-1752
Form NK-2
(April 1946)

UPLAND GAME BIRDS

Refuge Sherburne NWR

Months of January 1 to December 31, 1968

(1) Species	(2) Density	(3) Young Produced			(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres Per Bird	Number broods observed	Estimated Total	Percentage	Hunting	For Re- stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Ruffed Grouse	Upland, Bottomland timber & scrub, swamp 15,595 acres	16	10	80	50:50	400	0	0	800-1000	
Ring-necked Pheasant	Grassland, revert- ing agricultural lands, marshes & fields 16,058 acres	250	2	5	50:50	0	0	0	50-75	

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS*

- (1) SPECIES: Use correct common name.
- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

*Only columns applicable to the period covered should be used.

3-17
Form NR-3
(June 1945)

BIG GAME

Refuge Sherburne NWR Calendar Year 1968

(1) Species	(2) Density	(3) Young Produced	(4) Removals				(5) Losses			(6) Introductions	(7) Estimated Total Refuge Population		(8) Sex Ratio	
Common Name	Cover types, total Acreage of Habitat	Number	Hunting	For Re- stocking	Sold	For Research	Predation	Disease	Winter Loss	Number	Source	At period of Greatest use	As of Dec. 31	
White-tailed Deer	Cropland 5,822 Upland 14,787 Marsh 9,797	40	15	0	0	0	0	0	0	0	-	240	225	50:50

Remarks:

Reported by David E. Goeke, Ass't Refuge Mgr.

INSTRUCTIONS

Form NR-3 - BIG GAME

- (1) SPECIES: Use correct common name; i.e., Mule deer, black-tailed deer, white-tailed deer. It is unnecessary to indicate sub-species such as northern or Louisiana white-tailed deer.
- (2) DENSITY: Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge: once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated total number of young produced on refuge.
- (4) REMOVALS: Indicate total number in each category removed during the year.
- (5) LOSSES: On the basis of known records or reliable estimates indicate total losses in each category during the year.
- (6) INTRODUCTIONS: Indicate the number and refuge or agency from which stock was secured.
- (7) TOTAL REFUGE POPULATION: Give the estimated population of each species on the refuge at period of its greatest abundance and also as of Dec. 31.
- (8) SEX RATIO: Indicate the percentage of males and females of each species as determined from field observations or through removals.

DISEASE

Refuge Sherburne NWRYear 19⁶⁸

Botulism

Lead Poisoning or other Disease

Period of outbreak _____

Period of heaviest losses _____

Losses:

	Actual Count	Estimated
(a) Waterfowl	_____	_____
(b) Shorebirds	_____	_____
(c) Other	_____	_____

Number Hospitalized	No. Recovered	% Recovered
(a) Waterfowl	_____	_____
(b) Shorebirds	_____	_____
(c) Other	_____	_____

Areas affected (location and approximate acreage) _____

Water conditions (average depth of water in sickness areas, reflooding of exposed flats, etc.) _____

Condition of vegetation and invertebrate life _____

Remarks Nothing to Report

Kind of disease _____

Species affected _____

Number Affected Species	Actual Count	Estimated
_____	_____	_____
_____	_____	_____
_____	_____	_____

Number Recovered _____

Number lost _____

Source of infection _____

Water conditions _____

Food conditions _____

Remarks Nothing to Report

-1757
Form NR-1
Rev. June 1960)

(1)

NONAGRICULTURAL COLLECTIONS, RECEIPTS, AND PLANTINGS

Refuge Sherburne NWR Year 1968

	Collections and Receipts (Seeds, rootstocks, trees, shrubs)						Plantings (Marsh - Aquatic - Upland)						
Species	Amount (Lbs., bus., etc.)	(2) C or R	Date	Method or Source	Cost	(3) Total Amount on Hand	Location of Area Planted	Rate of Seeding or Planting	Amount Planted (Acres or Yards of Shoreline)	Amount and Nature of Propagules	Date	Survival	Cause of Loss
White Pine	5000	R	5/15	Minn.	\$12/M		Sherburne NWR	600/A	37.3 acres		5/16-		
Norway Pine	8000	"		For.Serv.					Total		6/22		
Colo. Spruce	7000	"		Carlos									
Caragana	7000	"		Avery Nursery									
Manchurian	25	R		SCS	None		Sherburne NWR		1 acre		5/8	(11)	44%
Apple				St.Cloud			Roman Tract		Total			(20)	80%
Buffaloberry	25	"		Minn.								(23)	92%
Prinsipia	25	"										(25)	100%
Cherry	25	"										(22)	88%
Mongolian	25	"										(20)	80%
Cherry	25	"										(29)	80%
Schubert's	25	"										(16)	64%
Chokecherry	25	"										(17)	68%
Nyant Plum	25	"											
S.D. Plum	25	"											
Manhattan													
Plum	25	"											
Manet Plum	25	"											

- (1) Report agronomic farm crops on Form NR-8
(2) C = Collections and R = Receipts
(3) Use "S" to denote surplus

Total acreage planted:

Marsh and aquatic _____
Hedgerows, cover patches 1 acre
Food strips, food patches _____
Forest plantings 37.3 acres

Remarks The 22,400 trees planted were received in very poor condition and adjustments were later made with the Minnesota Forest Service to compensate for this.

The shrub plantings are in an experimental plot to determine which species are best suited for the refuge.

3-1758
Form NR-8
(Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge Sherburne NWR County Sherburne State Minnesota

Cultivated Crops Grown	Permittee's Share Harvested		Government's Share or Return				Total Acreage Planted	Green Manure, Cover and Water- fowl Browsing Crops Type and Kind	Total Acreage
	Acres	Bu./Tons	Harvested		Unharvested				
Corn	355	17750 bu.	5	250 bu.	164	8200 bu.	524		524
Rye (For 1969)	288	5760 bu.	(Exchanged for Standing corn)			700 T.	341	Rye (browse)	341
Soybeans	42	420 bu.	(Exchanged for standing corn)				42		42
Oats & Alsike	50	1000 bu. Oats						-Cover- Alsike clover Alfalfa Birds foot trefoil Native grasses	50 27 4 70
								Fallow Ag. Land	None

No. of Permittees: Agricultural Operations 11 Haying Operations 4 Grazing Operations 1

Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash Revenue	GRAZING	Number Animals	AUM'S	Cash Revenue	ACREAGE
Alfalfa (Established prior to 1968)	130 T.	86	\$86.00	1. Cattle	10	40	10.00	4
				2. Other	None			
				1. Total Refuge Acreage Under Cultivation				1144
Hay - Wild	None			2. Acreage Cultivated as Service Operation				211

DIRECTIONS FOR PREPARING FORM NR-8
CULTIVATED CROPS - HAYING - GRAZING

Report Form NR-8 should be prepared on a calendar-year basis for all crops which were planted during the calendar year and for haying and grazing operations carried on during the same period.

Separate reports shall be furnished for Refuge lands in each county when a refuge is located in more than one county or State.

Cultivated Crops Grown - List all crops planted, grown and harvested on the refuge during the reporting period regardless of purpose. Crops in kind which have been planted by more than one permittee or this Service shall be combined for reporting purposes.

Permittee's Share - Only the number of acres utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. Report all crops harvested in bushels or fractions thereof except such crops as silage, watermelons, cotton, tobacco, and hay, which should be reported in tons or fractions thereof.

Government's Share or Return - Harvested - Show the acreage and number of bushels harvested for the Government of crops produced by permittees or refuge personnel. Unharvested - Show the exact acreage and the estimated number of bushels of grain available for wildlife. If grazing is made available to waterfowl through the planting of grain, cover, green manure, grazing or hay crops, estimate the tonnage of green food produced or utilized and report under Bushels Unharvested column.

Total Acreage Planted - Report all acreage planted, including crop failures.

Green Manure, Cover and Waterfowl Grazing Crops - Specify the acreage, kind and purpose of the crop. These crops and the acreage may be duplicated under cultivated crops if planted during the year, or a duplication may occur under hay if the crop results from a perennial planting.

Hay - Improved - List separately the kinds of improved hay grown. Annual plantings should also be reported under Cultivated Crops, and perennial hay should be listed in the same manner at time of planting.

Total Refuge Acreage Under Cultivation - Report total land area devoted to agricultural purposes during the year.

TIMBER REMOVAL

Refuge Sherburne National Wildlife Refuge Year 1966

Permittee	Permit No.	Unit or Location	Acreage	No. of Units Expressed in B. F., ties, etc.	Rate of Charge	Total Income	Reservations and/or Diameter Limits	Species Cut
Nan Conifer Co.	1	McNamara Tract(28)	35	638 Norway pine 2,132 Scotch pine Christmas Trees	20¢/tree 35¢/tree	127.60 746.20	cutting to take place until 1970, clear cut Scotch pine & leave 100 Norway pine per acre.	Norway Pine Scotch Pine Christmas trees
Nelson's Tree Farms	2	Bergerson (43) Olafsson (179) Berlin(22) Berlin(266) Mason(259)	152	1522 Christmas trees	25¢/tree		Same as above	Norway & Scotch pine Christmas trees
Mrs. Wendell Iliff	14	Iliff Tract(24)	80	227 Christmas trees	25¢/tree	56.75	Cutting to be completed by 12/31/68 May clear cut Scotch, Pine & leave 100 Norway pine per acre.	Norway & Scotch pine Christmas trees.

Total acreage out over 267 Total income 1,311.05

No. of units removed B. F. _____ Method of slash disposal _____

Cords _____

Ties _____

4,519 Christmas Trees

ANNUAL REPORT OF PERSTICIDE APPLICATION

Proposal Number

Reporting Year

Sher II

1968

INSTRUCTIONS: Wildlife Refuges Manual, secs. 3252d, 3394b and 3395.

Date(s) of Application	List of Target Pest(s)	Location of Area Treated	Total Acres Treated	Chemical(s) Used	Total Amount of Chemical Applied	Application Rate	Carrier and Rate	Method of Application
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
May 30 - June 15	Quack Grass	All farming units planted to corn	524	Atrazine	1048	2 lb./Acre	Water 100 gals. per acre	sprayer on tractor

10. Summary of results (continue on reverse side, if necessary)

Rain fell on 7 days during the spraying period for a total of 3.28 inches, however, it did not materially effect results. Percentage of kill was 75% - 100%. Cost to refuge was \$256.00 for 114 lbs. of atrazine and approximately \$100.00 for labor and equipment for a total of \$356.00 for 57 acres of corn.

Cost of atrazine on 467 acres of permittee corn was paid by permittee.

ANNUAL REPORT OF PERSTICIDE APPLICATION

Proposal Number

Reporting Year

Sher III

1968

INSTRUCTIONS: Wildlife Refuges Manual, secs. 3252d, 3394b and 3395.

Date(s) of Application	List of Target Pest(s)	Location of Area Treated	Total Acres Treated	Chemical(s) Used	Total Amount of Chemical Applied	Application Rate	Carrier and Rate	Method of Application
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
June 20 - August 10	Leafy Spurge	various locations within refuge	9	Tordon 212	45 lbs.	5 lb./Acre	water 100 gals per acre	Hand sprayer

10. Summary of results (continue on reverse side, if necessary)

1.5 inches of rail fell 10 days after spraying started. Areas were checked 3 times during summer and fall.

Apparent kill was 100% however, this was the case last year also, and new plants appeared in the spring.

Cost for this operation - chemical	\$360.00
labor	100.00
Total	\$460.00